ALEXANDER CAMPBELL WHITE, Esq.

# The TROPICAL AGRICULTURIST MONTHLY.

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# "PIONEERS OF THE PLANTING ENTERPRISE IN CEYLON."

*(Second Series.)*

## ALEX. CAMPBELL WHITE.

PLANTER AND MERCHANT.

WE confined our first series of Pioneer Colonists, connected with Ceylon, to men who had passed "that bourne whence no traveller returns." In beginning a second series, we are pleased to include several who, though long ago retired from the Colony, are still in the flesh, and who continue to hold property in the island, to read their *Overland Observer* and to take an interest in all that concerns the welfare of old Lanka and its people. It was our privilege during a recent visit to England to meet several of these retired pioneers; but, unfortunately, we were not able to keep a promise to visit Cheltenham and meet once again the subject of our present notice, or we should have been able to fill up a great many blanks in our story. But as it is, we must make what we can of the rather scant material before us.

ALEXANDER CAMPBELL WHITE'S birth dates so far back as 1816, so that he must now be in his 81st year. Born a Scotchman he had the privilege of being fitted for his work in life with that useful practical education for which the Parish Schools of Scotland (long before the era of Board Schools) have been specially famous. In Glasgow, Mr. White acquired some experience of business before

SAILING FOR BOMBAY

as a youth of 18, with the mission of starting the Firm of "White, Barlow & Co." What would be thought in the present day of a youngster in his teens coming out to the East to start anything! But in the early part of the century men remembered that William Pitt was Prime Minister of England at 23 and that both Clive and Warren Hastings had landed in India when they were only 18 years of age. To return to A. C. White: on his way to Bombay, he visited Cairo and met, and made friends, with the enterprising, far-seeing Lieut. Waghorn, at the time engaged in his enterprise of opening and establishing the "Overland route" which shortly after became an accomplished fact. At Suez, Mr. White had to remain ten days before he got away in the East India Company's steamer "Hugh Lindsay" which had been sent from Bombay to ascertain whether the Red Sea and Gulf of Suez were really navigable and safe for steamers. The whole voyage from London to Bombay occupied nearly *three months*; while, now-a-days, letters (and passengers travelling with the mails) can get from St. Martin's-le-Grand to Bombay in *twelve days*!

Mr. White remained eight years in Bombay with varying fortunes but ever-increasing experience, until, in 1842, he decided to make a new departure and to venture his then comparatively limited capital (£2,000, we have heard mentioned as the total) in a coffee plantation

IN CEYLON.

The Colony was fast coming into notice. Five years earlier, Mr. Tytler—with the experience of Jamaica—had shown how the shrub could be properly cultivated and the cherry fruit properly prepared for market. A rush into the new product had commenced: the extensive and attractive hill country of the island was invaded from

all sides. Still there was no lack of forestland at the upset price of 5s per acre; and any competition was considered such "bad form," that as soon as a pioneer made his selection, he cut the boundaries and began forming a nursery as if the land had already been knocked down to him and the Crown transfer made out. And that there was a rapid fortune in

"COFFEE" IN THOSE EARLY DAYS,

let the following illustration testify:—

Here is an estimate we find in the *Ceylon Observer* of May 1842, referring to Oduwella estate, in Hantane probably, which will give an idea of the yield and profits of coffee from its growth on virgin forest-land in a favourite district in those early days:—

"The O—— Estate was commenced in July 1837 —Extent of Forest 1892 acres.

DR.

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|---|---|---|---|---|---|---|
| "Total Expenditure up to 31st December 1841, including purchase of forest, planting 305 acres, stores, machinery, &c. .. .. .. | | | | £6,938 | 7 | 3½ |

CR.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1839 Sale of seed and 42 bags of coffee .. | 445 | 18 | 6¾ | | | |
| „ Sale of 176 acres of forest .. .. | 176 | 0 | 0 | | | |
| 1840 Sale of seed and 796 cwt. of coffee .. | 3017 | 10 | 5 | | | |
| 1841 Estimated value of 2,000 cwt. shipped | 8000 | 0 | 0 | | | |
| | | | | £11,639 | 8 | 11¾ |

"The crop of last year, 2000 cwt., which is now going home, was gathered off 200 acres, and only about 50 acres of that in full bearing. The crop of the coming season is estimated at 3,000 cwt. and it will be gathered off about 250 acres. Judging from the experience of these two years, when the whole dlanted part (about 350 acres) is in full bearing, it will give fully 5,000 cwt."

The total export of coffee from Ceylon in 1841 was 80,000 cwt.; in 1842 it rose to 120,000 cwt., but it went to a splendid market protected at the time by a differential duty as may be judged from the prices indicated above.

On arriving in Colombo, Mr. White at once proceeded upcountry and on to the Knuckles District as well as he could—for there was neither bridge beyond Kandy nor road beyond Katugastota, in those early days.

IN THE KNUCKLES,

however, he had secured through the agency of the then well-known Mr. Donald Davidson, a compact block of 400 acres of forestland which he proceeded to open as the Kandekettia estate, which is in existence to this day, though it has long ago passed out of the hands of the original owner. At the same time, Mr. White—young (in his 24th year) and energetic—opened Allacolla estate for Mr. Davidson. He must have had for his neighbours at the time Mr. James Wright, still of Dimbula and his then Assistant, poor "Sandy Brown." Mr. White continued to reside for several years in the Knuckles district and he there experienced the financial crisis of 1845-6 and the dark period of depression which followed, when one-tenth of al the coffee estates opened in Ceylon, were abandoned and many more were foreed to sale for a fraction of their value.

MR. WHITE AS PROPRIETARY PLANTER AND MERCHANT—HIS MARRIAGE.

Mr. White next moved

TO PUSSELLAWA

where he took up land and opened the well-known properties of Dawatagas and Doragalla. Early in the "fifties" we find Mr. White had his own Firm of "A. C. White & Co." in Kandy; but very soon after he became partner in the Colombo House of "Nicol, Cargill & Co." which included besides Mr. Andrew Nicol, C. B. Cargill and S. T. Richmond. Mr. White had by this time married and we, personally, recall his handsome, stalwart figure on Galle Face early in the "sixties," Mr. and Mrs. White being always on horseback of an afternoon. The adventurer "F. Hudson," at one time a large estate proprietor in Ceylon, got Nicol, Cargill & Co. into trouble by obtaining heavy advances, and eventually about 1868, there was a dissolution of partnership and the coffee estates of the Firm were divided between Messrs. White and Nicol. The former got for his share the now splendid property of Mount Vernon which then included Hudson or Fairfield, the whole aggregating 840 acres (with 538 acres in coffee), Mr. John Martin being Superintendent; while Mr. Nicol took Union and Niagara 740 acres (with 480 in coffee), Mr. John Stronach being Manager. The latter now form the Dimbula estate with nearly 600 acres ot tea, while Mr. White has 750 acres of the same product on Mount Vernon.

HIS RETIREMENT AND SETTLING DOWN AT HOME.

Retiring from Ceylon soon after, Mr. A. C. White was long known as about the largest (individual) owner of estate property connected with Ceylon. For, besides his Dimbula and Pussellawa plantations, he owned Bukanda near Gampola, Delpottonoya in Medamahanuwara and with interests in some other districts. Were there time and space, good stories could be told of how the once famous "Wm. F. Forsyth" of Waitaawa managed for Mr. White as an absent proprietor, while opening Delpottonoya. Still Mr. White was one of the fortunate Colonists—everything he touched, for many years, "turned to gold" and he became one of the wealthiest proprietors connected with the island. After settling down at home, Mr. White paid occasional though rare, visits to the island in the "seventies" and "eighties," and he would have come out again and again since, were it not for an accident he met in the hunting-field, through falling and breaking his collar-bone some years ago. It shows what a splendid constitution he has had, that well on in the "seventies"—perhaps in his 75th year—Mr. White should be able to continue to fol-

low the hounds as he had done in Gloucestershire for many years after retiring from Ceylon, and still more that he should recover so well from the shock and breakage of bones caused by his fall.

IN CHELTENHAM.

For several years back Mr. White has resided in a very comfortable mansion surrounded by a fine garden in Cheltenham. He continues to be the most regular of men in all his arrangements. After breakfast, from 9 to 12 noon, nearly every day he gives to his correspondence and to anyone calling on business, and then he has his midday walk, seldom going out of an afternoon, though fond of visitors coming in to "tea" or dinner with him. Nothing delights Mr. White more than to encounter Ceylon men and talk over old times, and lately he enjoyed in this way at Mrs. Mackie's residence, meeting Messrs. Wm. Rollo, Humphreys and Tilly. Were it not for the heat of the Red Sea, Mr. White would even now visit Ceylon, so much would he like to see the dear island again, where he laboured so long and well. But of this, we fear, there is little hope. We were not aware till the other day that Mr. White had become a Roman Catholic—a fact that must shock his nephew, Lord Overtoun (John Campbell White), the well-known Liberal supporter of Evangelical Protestant Missions, and a great philanthropist. But our Mr. A. C. White is not wanting either in good works, according to his light: he is the most liberal supporter of his Church in Cheltenham; but he goes further and in deeds of kindness and charity which are confined to no Church, few men are so open-handed; and the Treasurers of the Hospital, Convalescent Home, and other deserving charities in Cheltenham have reason to bless the day that the wealthy Ceylon estates proprietor settled in their midst.

Our latest news through a friend is that Mr. White, though over 80, continues to look young for his age, with his erect figure, and steady walk, a favourite little dog being his companion. What tales he could unfold of his "days of old," fifty years ago, on the hills of Ceylon, when he laboured and watched

> The coffee shrubs in springing up
> The forest going down;

—and of all the vicissitudes of the Colony since, until now as proprietor of Mount Vernon in tea, he has a property far more valuable than ever it was in its days of virgin soil in coffee. Altogether no tale in romance can be half so strange as that of the coffee-cinchona-tea Colony; and no one has stuck by it more faithfully and continuously in good and evil report (for heavy losses had to be experienced from time to time, even in recent years) than the subject of our notice, MR. ALEXANDER CAMPBELL WHITE. May his shadow never grow less!

## Agricultural Pests:

### WITH METHODS OF PREVENTION.

BY MISS E. A. ORMEROD

(LATE CONSULTING ENTOMOLOGIST TO THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND).

(*Special for "Tropical Agriculturist."*)

II.

### PESTS AFFECTING FROM CROPS AND ANIMALS.

GAD FLIES, WARBLE AND BOT FLIES, FOREST FLIES, &C.

The family of the *Tabanidæ*, or Gad Flies, which are injurious as blood-suckers, include some of the largest flies which we have in this country, and cause injury by piercing into the skin (it may be of cattle, or it may bo of ourselves) with the lancet-like apparatus which they carry in their proboscis. In shape they may be described as like common flies; but the great, dark brown fly, striped across with yellow, known as Ox Gad fly, is sometimes as much as an inch and three quarters in the spread of the wings.

From the circumstance of the Larva, or maggot, of the *Tobanus Bovinus* having a distinct horny head, and the pupa being naked and incomplete (that is to say in some degree resembling the perfect fly, it will be seen that, technically, this family is nearly allied to those of which the *Tipula* may be taken as a type. But the points under consideration being the animals or plants attacked, I deal with the Gad Flies here, together with the other cattle flies. As in this case it seems impossible to lessen attack by destroying the maggots, the next best way of saving the cattle from annoyance would appear to be moving them from pastures by streams, or such localities as the flies frequent, to more open and drier land, where the state of the ground would not suit the gad-fly maggots, and the flies would not find the trees which they love to lurk amongst. In case of dressings being desirable to ward off infestation, the same that are known to answer in the preventing attack of Warble Fly would be useful.

The large family of the *Œstridæ*, popularly known at Bot Flies, differ from the Gad Flies, entirely, in their method of doing harm, inasmuch as, generally speaking, the mouth of the *Œstridæ* is obsolete, only represented by a few minute fleshy tubercles; also the maggots of this family of flies live within some part of the animal that is attacked. Prof. Westwood notes three principal differences in their habits: some live in tumours beneath the skin; some attack the cavities of the head, which are reached through the nostrils; and some are gastric in their attack, by the maggots being introduced into the stomach.

The kind we are about to notice (the *Gastrophilus equi*, or Horse Bot Fly) are about the size of a house fly, or rather larger, and are somewhat gaily coloured with yellowish and dark markings, and very hairy.

In the case of this Horse Bot Fly, the female hardly touches the animal, but, whilst lightly flying to and fro, places the eggs on the hairs, until the very numerous supply are laid. These are fixed by a kind of sticky moisture on the shoulder, or on the mane, inside the knee, or on any other part selected. The maggot forms within the egg, and when it is ready to hatch (which may be in a period of from about five days to three weeks), the warmth and moisture of the horse's tongue in licking the infested hair, causes the kind of lid or cap to open or crack, and the maggot within sticks to the tongue, and is thus gradually transferred to the stomach. Here the maggots fix themselves to the mucous membrane by means of two dark brown hooks, one of which is placed on each side of the slit which serves for a mouth, and there they nourish them-

selves by suction, and are considered to pass from eight to ten months in maggot state, attached b their mouth hooks to the lining membrane of portion of the stomach.

Sometimes there may be only a few of these maggots present; sometimes (as I have seen myself) they are present in such numbers as to lie close up against each other over a large patch of surface, so that it hardly seemed possible to find room for another amongst them. Here they live until, when full-fed, they loose their hold; and after being thrown to the ground, turn to a brown pupa, from which the fly comes out in a few weeks.

For prevention of this attack, such treatment as combing, brushing, or clipping hair, so as to get rid of the eggs, is sure to be of use. Also the application of soaps, or washes, with scents deterrent to insect attack; and, likewise, freedom to the horses to shelter in sheds in the heat of the day. Remedies fall within the province of the veterinary adviser, as special advice is needed for their safe application.

The Ox Warble Fly, or Bot Fly, is a two-winged fly, upwards of half-an-inch in length, so banded and marked with differently coloured hair as to be not unlike a humble bee. The face is yellowish, the body between the wings yellowish before and black behind, and the abdomen whitish at the base, black in the middle, and orange at the tip. The female is furnished with a somewhat telescopic-formed extension of the end of the abdomen, which acts as a long egg-laying tube, and the egg is white and oval, with a sm ll brownish lump at one end.

On hatching from the egg, the maggot is not of the thick, oval shape to which it afterwards changes, but is almost worm like in shape, and is furnished with a pair of cutting forks at the mouth end. By careful examinations of sections of hide in the very earliest stage of attack, a fine channel or perforation will be found leading from the outside of the hide, right through it, down to the under side. Here the young maggot will be found, and by gentle pressure, the course of the maggot channel may be clearly traced by the little drop of blood which (in my own observation) I have found can readily be forced along it from the larvæ working below, till it stands as a minute drop on the outside of the hide. This channel I have found to be rough and jagged at the side, thus showing it was gnawed or torn (not cleanly pierced, as by an ovipositor), and the direction was very various, so as even to be much cured.

The maggot gradually increase in size, still lying with the tail end uppermost, or nearest the opening in the hide; and as it grows it presses back and opens the surrounding tissue, till it lies with the tail extremity in the opening of the boil-like swelling, commonly known as the "warble." Here it draws in air through what look like two small black spots in the tail, but which are really the spiracles, or masses of minute breathing openings, by which air is admitted into the breathing-tubes or *tracheæ* of the maggot. It feeds by sucking in the putrid matter flowing into the cavity its presence has caused, and there it remains until it is full grown, that is, about an inch long. This may be at any time from May to much later in the season, and then, with the help of the rows of prickles with which it is furnished out-ide, and the powerful net-work of muscles with which it is furnished within the skin, it drags itself through the opening of the warble, tail foremost, and falls to the ground, where it finds some shelter, either in the ground or under a stone or clod, where it changes to a chrysalis. The chrysalis is dark-brown or black, much like the maggot in shape, only flatter on one side; and from this brown husk the warble fly comes out in three or four weeks, but this length of time is increased by cold weather.

Where the attack is severe, the condition of the surface of the carcase beneath known as "licked beef," or "butcher's jelly," is to be found, which is a very serious drain on the health, condition, and quality of the animal, thus well described by Mr. C. E. Pearson, wholesale butcher, Sheffield:· "I may say that the effect of warbles on the carcase is more serious than can possibly be imagined by the outside appearance of the beast. . . . . The carcase of beef assumes a nasty yellow colour, and also a soft, flabby appearance on the outside rind of the beast (where the warble has been in operation), so much so that the carcase has, in some cases, to be pared down to the flesh to make the appearance of the animal at all presentable for the market, causing thereby a grievous amount of loss to the butcher. I am speaking from practical experience, killing on an average twenty beasts or more a week."

On applying to Mr. Henry Thompson, M.R.C.V.S., of Aspatria, Cumberland, who has long devoted much attention to warble attack, for an exact description of the damage, he replied:—What causes the damaged meat or beef is the chronic inflammation set up by the warbles in the skin, which extends to the connective tissues, thence to the flesh, producing the straw coloured, jelly-like appearance of a newly slaughtered carcase of beef, which, in twelve or twenty-four hours, when exposed to the air, turns a dirty greenish yellow colour, and thus spoils the beef, having a frothy discharge oozing from the surface with a soapy-like look."

Its prejudicial nature in all points of view is thus shortly given, in the last words of some observations with which I was favoured by Mr. John Penberthy, Prof. of Pathology at the Royal Veterinary College, Camden Town, N.-W., regarding some specimens on which I had requested his opinion:—"The material is not fit for human consumption. I think it very deleterious to the health and comfort of the affected animal."

The yearly loss from this attack of is enormous. Firstly, there is the loss on milk, and on many other points of damage consequent on the wild gallop of the cattle when terrified by the fly. Secondly, there is the loss on the condition of the infested animal. Every warbled hide is a sign of so much out of the farmer's pocket, for the food he spent in feeding grubs in his cattle's backs which should have gone to form meat and milk, instead of being wasted in foul maggot-sores. Thirdly, there is the loss, falling mainly on the butchers, consequent on damage to surface of carcase known as "licked beef" or butcher's jelly." Fourthly, there is a great loss on the injured hides. The two following returns, from Newcastle-on-Tyne and Aberdeen respectively, taken from a number of returns from hide or cattle companies, etc., with which I was favoured in 1888, give some slight idea of the loss going on, simply on this one item of pe fectly needless waste. The following is from New carstle-on-Tyne:—

"In a period of twelve months, 102,877 hides passed through the market; of these, 60,000 were warbled. Loss estimated at £15,000."—J. McG.

"In five months, from February 3rd to June 24th, 61,103 hides passed, of which 14,630 were warbled. Loss, £2,873."—W. M. & Son, Aberdeen.

The above loss, in all its details, is wholly unnecessary. By the use of the simple measures mentioned below, we have now found, from the experience of our leading farmers, cattle owners, and veterinary surgeons, during about twelve years (that is, since attention was first directed to the subject), that the attack may, to all practical purposes, be stamped out.

Squeezing out the maggots is a sure method of getting rid of them, but they may be destroyed easily and without risk by dressing the warble with a little of McDougall's smear or dip, or with a little cart-grease and sulphur, applied well on the opening of the warble. Mercurial ointment answers, it carefully used—that is, in very small quantity, and only applied once as a small touch on the warble; but where there is any risk of careless application it should not be used. Any thick, greasy matter, that will choke the breathing-pores of the maggot, or poison it by running down into the cell in which it

lies and feeds, will answers well; and lard or rancid butter, mixed with a little sulphur, has also been found to answer. Tar answers if carefully placed, so as to be absolutely on the hole, into the warble. Bought cattle are often badly infested, and need attention.

To prevent fly attack in summer, train-oil rubbed along the spine, and a little on the loin and ribs, has been found useful; so has the following mixture—4 oz. flowers of sulphur, 1 gill spirits of fat, 1 quart train oil; to be mixed well together, and applied once a-week along each side of the spine of the animal. With both the above applications it has been observed that the cattle so dressed were allowed to graze in peace, without being started off at the tearing gallop so ruinous to flesh, milk, and, in the case of cows in calf, to produce.

Where cattle are suffering badly from warbles, so that the health is clearly affected, and the animal wasting, the use of the old well-known black oils has been found to do much good.

Mr. Henry Thompson, M.R.C.V.S., gives the following recipe used for a bad case:—"Turpentine, 1½ oz.; sulphuric acid 1 drachm (here a chemical action sets in and must be done with caution). To this I added 10 oz. raw linseed, and rubbed the cow's back once a day with the mixture. . . . In a fortnight the back was cleaned, and all the maggots destroyed.

There are many other points that bear on prevention, of which one is the noting that Warble Flies are most active in heat and sunshine, and appear not to pursue cattle over water; consequently, allowing the cattle the power of sheltering themselves, and access to shallow pools, is desirable. Likewise, with regard to pastures, or standing-ground of infested cattle, it is matter of course that where the maggots have fallen from their backs the flies will shortly appear to start new attacks.

The attack of the Sheep Bot Fly is a very serious matter, which causes much suffering to the animals, and loss to their owners. This fly is rather larger than the common house fly, and of an ashy colour, spotted with black between its wings and silvery or yellowish white. The female either lay her eggs, or deposits living maggots on the margins of the nostrils of the sheep by means of the mouthhooks with which they are furnished, and attach themselves to the membranes of the cavities. Here they feed on the mucus; and it is stated that they at times feed on the membrane itself. Their presence causes great irritation; and where the attack is severe leads to gradual loss of strength, and convulsions and the death of the animal. When full grown the maggots are about an inch in length, ahd in tbe common course of things they remain in the head of the sheep for ten months to a year before they are mature. They then leave the animal, by going down the nostrils, and fall to the ground, where they turn —either amongst roots of grass, or in any convenient place above or below the surface—to a black or brown pupa, from which the fly comes out in about six or eight weeks, or after a variable number of days, according to the climate.

The preventive in this case is to keep the fly from getting access to the nose of the sheep. The sheep protect themselves to the best of their power by holding their nostrils down to the gronnd, or in any other position which will keep off the fly, when they are aware of attack, and this principle is worked on, in the application of tar or other remedies to keep the fly from settling.

The attack of Sheep Nostril Maggot is of quite a different nature from that of the *Cœnurus cerebralis*, or Hydart, which in its young state causes the disease known as staggers or "gid" in sheep; but the two attacks are popularly confused. The difference is easily shown by an anatomical demonstration of the maggots in the nostrils in one case, and the hydatid-infested brain in the other.

The Forest Fly *(Hippoboiea equina)*, which infests horses and cattle, and is especially common in the New Forest in Hampshire, may be taken as a type of the division. This fly possesses an egg-like pupa, and also a peculiar toothed claw. The main colours of the little fly are brown or black, varied with some shade of yellow. It causes irritation both by blood-sucking, and by creeping, which it can do backwards, forwards, or sideways with great nimbleness, on the parts of the animal especially preferred for infestation. The remedies used are local applications obnoxious to the fly, and careful attention to cleanliness.

In some cases the head of these flies (*pupipara*) is so withdrawn into the body, and the horns into the head, that in addition to their sometimes being without wings or poisers they have a spider-like appearance, and are known as Spider Flies. The *Melophagus ovinus*, known, though incorrectly, as the "Sheep-tick," which lives in the wool and sucks the blood of the sheep, is one of this division.

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*Polli, P.* [See under TEA.]

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*Whig.* See *Cocoa-Tree Club.*

*Wonder.* See *Cocoa-Tree Club.*

*Zeti, Francesco.* See *I., F.C.C.S.*

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## PLANTING IN LAGOS, WEST AFRICA.

From the 31st Report for the Quarter ended 30th September, 1895, on the Botanic Station, Colony of Lagos, we quote the following passage:—

### ECONOMIC PLANTS.

*(Continued from page 448.)*

Sir,—I have the honour to submit for the information of His Excellency the Deputy Governor the following report on my tour to and from Abeokuta.

Having been granted permission to accompany His Excellency the Acting Governor to Abeokuta I made every preparation for collecting, and departed from the Botanical Station on 12th September and returned on the 30th of that month.

I should mention that owing to work requiring my supervision since my return I was prevented in submitting this report at an earlier date.

The collection of plants made when travelling were principally confined to the forest roads or paths, and

also my observations on the vegetation, I had not sufficient time at my disposal to collect in the forests where accessible, or I should have been left behind.

The collection of herbarium numbered 408, this includes duplicate sp cimens, one of each specimen will be forwarded to Kew for determination. Many living plants were also collected.

*Cultivated Plants*:—Throughout the whole route taken the products grown are very similar, the principal articles of food being Corn, Zea Mays, Yams, Dioscorea sps', Cassava, Manihot utilissima, Colocasia antiquorum, Phaseolus, several species of this plants are extensively grown around Abeokuta, Aractus hypogoea is not often seen, a large variety of this species is cultivated, Cajanus indicus is used also as an article of food.

*Rubber producing plants* :—The chief source of Lagos rubber is obtained from Ire, Kickxia africana, a tall growing tree in the forests. This tree is plentiful throughout the forests from Ottoto Papalayito also near the forests at Adawo, andfrom Ilaro to Ajilite.

*Landolphias L. owariensis* :—This species is the most common. When I had time to go in the forests I met it, but it appeared not to be sought after, for it is more difficult to collect and requires more time. I found several other plants that furnish rubber probably of the Genus Vocanga but unfortunately these trees were not in flower. Several species of Ficus where frequently seen on the journey. I noticed that at Abeokuta ceara rubber Manihot Glazivio had been introduced.

*Fruits*:—These like most other plants receive but little attention in their culture, the Pine apple Ananas sativa is found growing everywhere in a wild condition, Papaws, Carica Papaya, Sour Sop, Anona mufricata, Sweet Sop, Anona squamosa, also Bananas and Plantains grow near towns and villages and I noticed a very dwarf Banana at Abeokuta, similar to the Grand Canary Banana. Oranges and Limes are seen but not in any quantity, the Hog Plum was grown around the villages on the way Spondias lutea no doubt. Thaumatococcus Danielli is grown throughout the whole of the districts, it is not grown so much for its fruits as its leaves which are used in lieu of paper, also for thatching roofs of houses. Sideroxylon dulcificum, another fruit possessing very sweet properties and known as one of the Miraculous fruits of West Africa, was not seen to any extent. Another of the peculiar fruit I also found in large quantities, evidently an annual, for the plant had died down and I was only able to obtain the seed of it which had been sown.

*Kola acuminata* :—In some districts this is grown extensively at Otta, Igbessa, Ilaro, and Ado, this tree appears to thrive best in damp situations and under the shade of forest trees.

*Palms*:—The most common of all palms met with throughout the journey was the African Oil Palm, in some districts it is almost the only vegetation. After leaving Papalyto on the 15th September the vegetation somewhat changed, plains of tall growing grasses and large numbers of the Fan Palm Borassus œthiopum existed, a small Phœnix probably P. spinosa was also seen, Raffia Vinefera were found only in damp situations.

*Timber trees*:—Chlorophora excelsa or Iroko tree is very common in some of the forests, it is the indigenous wood used as it is very durable and resists the attack of white ants. Irvingia Barteri:—This I found only within two days journey of Ebute Metta. Spathodea Companulata was the only large tree I could recognise by its large bright clusters of flowers; in the forests large lofty trees are seen, but to collect specimen from these is indeed a work that will take time to obtain and overcome.

*Fibres*:—Sanseviera guineensis: this plant under the shade of forests trees grows luxuriantly, but its fibre is not sought for much by the Natives. Adansonia digitata:—Before reaching Abeokuta this tree was not often seen, but when travelling on the Ibadan road it was one of the chief trees seen, its fibre is used by the Natives. I saw a few plants of a species of Pandanus, many other plants were seen from which fibre could be obtained. 3 Hibiscus, sp. Crotolaria sp. Sida sp. Corcorus sp. abutilon etc.

The Vegetation by the forest roads is comparatively the same, up to the Ogun river, where the forests do not exist it is long grass, or scrubly bush; near villages the land is cultivated. The soil is much richer than that around here, and as one gets near to Abeokuta stones and rocks are frequently seen, and several streams are passed, which would prove very benificial if planting should take place.

At Abeokuta and surrounding it for miles the land is under cultivation or has been; like all other places the natives have no idea of manuring the land, but this work is left for nature to fulfil, land is cleared and planted for a few years then abandoned for sometime; this means great destruction to the forest; consequently the forest for some distance around this large town have been destroyed.

The soil here is very rich and the food crops are very large.

The soil is of a volcanic nature; at one time cotton was grown extensively at Abeokuta, but as it is very short staple, it cannot compete with American cotton. I visited a small plantation in the town, it consisted of plants of Liberia Coffee, Cocoa and another species of Coffee which is evidently not Liberian; all the plants were in a most thriving condition, and large crops were being produced, this convinced one that the soil was everything that could be desired for the cultivation of these and other economical plants.

After spending sometime around Abeokuta I travelled a day's journey on the road towards Ibadan, here the country is hilly, and most of the growth is stunted, here for the first time I saw the shea butter tree Butyrospermum Parkii, but unfortunately it was not the season to obtain seed. Adansonia digitata was also very numerous, & Acacias. Among the many dye plants found around this district which include Indigofera, and Bixa etc. Lonchocarpus cyanescens, native dye, this latter plant is cultivated and is the one principally used, in some places it was very abundant, and I noticed to induce young leaves from which is prepared the dye old leaves are gathered off the plants.

Calabashes—Lagenaria vulgaris and species of the cucurbitaceaeous order are largely represented, and cultivated to a large extent, and used largely by the natives for utensils.

On returning by way of Ilaro His Excellency gave me permission to visit the plantations at Soto and Ajelete. I have already sent in this report (see appendix I. of the quarterly report for September quarter on this Station.) These plantations are in a very thriving condition, cultivation is carried on to a far greater extent inland, and I think that if a Botanical out-station was established near some of these large inland towns the people would soon become aware of the value of Coffee and other economic plants, and take up the cultivation of commercial plants.

I have the honour to be,
Sir,
Your obedient Servant,
H. MILLEN,
*Curator.*

*(To be concluded.)*

## TEA PLANTING THIRTY FIVE YEARS AGO IN INDIA.

*(By an Old Planter.)*

Having at length accomplished the raising of seed, the next process we took in hand was planting out the seedlings; for the expeditious method of sowing in the open did not answer; purchasers, who are always fastidious, asserting, when they came up in the Poojahs to report upon or examine the property, that they expected to see rows of plants instead of, as one impertinent person observed, a beggarly array of *empty* stakes. One gentleman of an economic turn of mind had utilised fresh eka stems for lining off, with the result that his stakes sprouted but the seed didn't follow suit, somehow. Once the plantation

was staked off, we had a little leisure, for our notions of the proper season for transplanting were rather crude, and as the bustee-wallahs waited for the rains, to plant out their rice, we came to the conclusion that, as they must be the best judges in all agricultural matters, we could not do better than follow their example; so, until the middle of June, we visited one another, talked shop or whiled away the time in studying the luxuriant growth of the under-wood, as it came on merrily with the advance of the season; we did not imagine such vegetation needed removal, as it would keep the ground moist and cool. The proceedings of the professional gentleman, we regarded as something akin to lunacy, for he put in his plants in the dry weather—a slow laborious process, over which there was much shaking of heads—moreover, he kept his place as clean as a roadway, waging constant warfare with the second growth. There had been a talk of importing labour, but it ended in talk, so that when the first burst of the monsoon came on us we had but a fortnight to get all in, or, as we phrased it, "slapping in," for labor was only available for the above-mentioned period, when the people went off to attend to their own affairs. The slapping-in process was peculiar—though expeditious one operator was provided with a pointed stick, which he drove into the ground anywhere in the neighbourhood of the stakes, when such were found, keeping the line as best he could, when those landmarks were missing, then came No 2 with a bundle of seedlings, torn bodily up from the nurseries; the downpour washing the root clear from all such contamination as soil, these were pushed down into the dibbled holes, the earth round the surface stamped well round the stem, leaving a vacuum for the rootlets to spread in, and so the plant was *in situ*, as one planter who had started in the Educational Department, was wont to observe. Weeding was put off to a more convenient season, for the best of all reasons—there was no labor to carry out such an operation, even had we deemed it necessary, which we didn't. In October, or thereabouts, the bustee folk again made their appearance and re-clearance began, but the first operation being to clear the underwood and the coolies not up to distinguishing tea from jungle, a goodly number of promising seedlings fell before the reclaiming dhao; porcupines, crickets, withes and creepers had also had full fling during the recess, so the early plantings were not so successful as we desired. It must not be supposed that we were left entirely unmolested during the summer, for our employers were hard at work in town preparing those prospectuses that burst upon the public in the autumn of 1862. Alluring epistles, admirably composed, shadowing forth such dreams of El Dorado that drove all India mad. Whatever may have been the *laches* or muddles of the average planter of the day on the plantations, the crash that eventuated was brought about mainly by the gentlemen in town, who pandered to the public rage of the times. As the *dâk* reached us, day by day there were the same imperative instructions to slap in your plants. Fortunately, indeed for us, there was no telegraphic communication, or we should have gone demented; so we slapped in till there was nothing left to slap. A short respite, and then came peremptory instructions to have all cleared by the Poojahs, as a deputation of freshly caught shareholders would be up by then to inspect the gardens; the Secretaries' letters didn't call the new proprietors by that name, which was a local invention; there were dark hints as to possible losses of situations if the place was not presentable, which alarmed the more sensitive but merely elicited the remark, from those who took the ups and downs of this life with equanimity. "Well, we can't make coolies." As a general rule, the inspecting deputation did not turn out such dreadful people as we had been led to expect, and seemed, on the whole, pretty well satisfied with matters—as they ought to have been considering that they travelled at the Companies' expense, diverging as a rule to Cherrapoonjee, though why they went there did not transpire in the published reports. However, out of evil came good, and one thing was impressed upon the Agents, that dependence on local labor was a myth: then arose the class known as coolie contractors; but ere describing their early efforts we must take a retrospect as to the formation of the various Companies that rose before the public with meteoric brilliancy. The prospectuses, after a discursive dissertation upon tea in general, plunged into figures, and, as is well-known, if you can manipulate them cunningly, you can do almost anything with them, especially when periodic frenzy seizes the public mind. One concoction, with a lordly disregard for details, dealt in nothing but round numbers, so people were informed that an acre of tea would produce 300lbs. and realise Re. 1 per lb., that the up-keep would absorb half this and the balance be divisible among those lucky enough to get the scrip. The morning that this announcement appeared caused a block in Church Lane, like that on Boxing Night at the doors of popular London theatres. Energetic brokers fought and scrambled on the stairs, the durwans were swept clean away; obese baboos, Marwaries, every one in fact who could collect a hundred rupees besieged the portals of the Agents. The benign vendor of this wonderful property, who "hung out" at the butt end of the thoroughfare, chuckling to himself as he viewed the scene from his terrace; and thus the great Sylhet and Cachar Tea Companies saw the light. Up went the shares, and then the wild gamble commenced. Prospectus after prospectus followed each other in quick succession: the preamble of one on the Assam side was remarkable, for the inditor somehow got mixed, devoting a whole paragraph of the preamble to dwelling upon the tea house being in a right line with some peak in the Khasia Hills; the connection between the site of a building for the manufacture of Pekoe Souchong and a dissertation upon plane trignometry was somewhat hazy, though the public appreciated it, as the capital was subscribed for twice over. The rush for shares begat a similar demand for assistants, and all sorts and conditions of men, who could get an introduction, went up the office stairs as simple clerks, decending them again, after a short interview, full blown tea planters. We were thus reinforced; the station of Cachar presenting a bustling aspect, between the arrival of coolies and budding planters almost daily. Ere going into the coolie business, I may as well glance at the community of which their masters was composed. An amusing, but perfectly correct, list was given in one of the dailies, about 1862, of the previous avocations of those sent up, which reminded one of the rather mixed society that dwelt in Canvastown, Melbourne, ten years previously. Clerks predominated: there were lawyers' clerks, bank clerks, merchants' clerks, and one who had been in holy orders, runaway apprentices from ships and one or two ship captains, leadsmen and pilots, raw schoolboys from home who addressed their Managers as "Sir," a stray German whose career commenced as a flageolette player in the Calcutta town band, bar assistants and one from a job master's stablo (the last named subsequently becoming our authority on all racing matters), gentlemen from the lower grades of the Uncovenanted Service; while home importations were drawn from equally heterogeneous sources—it was ere the days of trained gardeners of premium wallahs. Few remained very long, soon finding that they had mistaken their vocation, though many settled down and now form our best planters.—*Indian Planters' Gazette.*

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THE SORGHUM PLANT makes an excellent forage crop, and is especially relished by cattle. It is cut and dried somewhat like hay. If syrup is to be made from the plant, the blades are removed and used for stock, and the stalks run through the mill. The refuse from the syrup-mill makes an excellent grade of paper.—*Southern Planter.*

## THE FUTURE OF TEA IN CEYLON:

## THE MISCHIEF ALREADY DONE BY MISLEADING INDIAN PROPRIETORS AS TO LOCAL CAPABILITIES;

## A WORD OF WARNING TO INDIA FOR THE FUTURE.

There can be no doubt that the chief factor in the lowering of the average prices in Ceylon tea for the past two years has been the great development of production in India as well as the increased attention given to preparation by our neighbours. And in respect of the future, there is no element so full of risk to our staple as the continued planting of more and yet more land out of the immense reserves fit for tea, both in Northern and Southern India. What may be done by producers or agents in Java, or in China and Japan to improve their teas, does not touch us so nearly as the prospect of our Indian neighbours continuing in the course which has marked their labours in the past few years. Now, one of their chief encouragements in this course has been the belief that Ceylon was fast reaching the limit of its production. We have done all in our power to dissipate this unwarranted belief—we have again and again shown that even though Crown land sales fell off, there were private reserves bound to be planted, to add to our crops and that a steady increase year by year from Ceylon as from India must be faced. With singular perversity, as well as pertinacity, has our position been locally assailed, and our motives questioned. We were denounced for prophesying the day of a hundred million lb. export from Ceylon. "Exaggerated estimates" have again and again been made the text of attacks; and "smooth things" for Indian planters' ears have been far too much the rule in some business and planting circles as well as in a contemporary's columns. What has been the consequence? Why, of course, that the utmost encouragement has been given to Indian Tea Companies, individual proprietors and pioneers, to clear and plant large areas with tea in both Northern and Southern India of recent years. Had the truth been known about Ceylon and its prospects, we feel certain the process of clearing new areas would have been a far slower and more judicious one. But no—"Ceylon has got to the end of its tether—has used up all its land—has almost reached its maximum export"—seem to be the substance of the consolation which some in our midst would still send to India! And surely we have a specimen before us in the following editorial deliverance in the local "Times":—

"Other things being equal, Dimbula has nearly reached the limit of its production. And the same remark holds good of several other districts, such as those we have named and many other besides. Extension now is nearly confined to the low country and Uva, and the total amount is not, we think, increasing, but decreasing, yearly."

Can anything be more mischievous in its effect on Indian proprietors and planters? What encouragement for them to pursue the course which already—as a merchant said today—has led to London at this time being full of Indian teas? Let it be granted that the available reserves in certain of our districts are nearly all planted, what about *manuring*? Not one word of reference does our contemporary make to a departure which is now every year more followed in Ceylon and which, of itself, with the results before us, ought to render Indian Tea Company Directors and other planters of tea, more and more careful how they rush on large new clearings without any proper consideration of how the over-production already threatened, is to be cleared off. The response already made to our "Manuring" circular shows that the majority of planters clearly recognise the importance of making their Indian brethren acquainted with what is being, and can be done in Ceylon. Only one of our correspondents thinks it better not to stir this subject of manuring, lest it should become more general. As well may the ostrich hide its head in the sands in view of its pursuer! The Ceylon tea country is far too compact, too well opened by roads and railways, far too admirably served by Visiting Inspectors and shrewd business agents, to find any profitable departure neglected in any district or among an appreciable group of estates. Some planters may wisely decide that the time for *them* to manure has not yet come. But let Indian tea men understand that, taking our tea country as a whole, the time for careful judicious experiments with fertilisers has almost, if not fully, come—and let them moreover *beware of the result*. For, we aver, without fear of contradiction, that the capitalist who, at this time of day, whether in India or Ceylon, goes clearing and planting any *large area* with tea is imperilling his own as well as his neighbours' investments. If the market as well as planting statistics are carefully studied, we think it will be found that the time for large additions to the cultivated area is not the present year. We may except tea grown at such a high elevation as to compete with Darjiling's or our finest Ceylon's. For such the market may not be overdone; and the same argument leads to the counsel that Ceylon planters generally would do well to pluck and make finer teas in view of possibly approaching contingencies. But our chief object in writing today is to warn our neighbours over the way that Ceylon is by no means played out, that the maximum of our exports has not been reached, and that they will do wisely not only to pluck finely, but to restrict new clearings; and above all to unite as one man with their Ceylon brethren to *advertise their teas and win over new markets in America and Europe.*

## A JAPANESE TEA VISITOR.

We have now in the island a Japanese gentleman, Dr. K. Obayashi, who has come chiefly on a "Tea Mission." He has letters of introduction to several influential residents, and notably one to H. E. the Governor from the British Legation in Japan. He is very interested in our Tea Industry, wants to know all about it, spends a few weeks in the island and left for Kandy today. He is acquainted with our *Tropical Agriculturist*; and is studying all the available literature bearing on our planting and agricultural products.

CEYLON TOBACCO.—According to the season reports for December in the *Gazette*, a large extent of tobacco land at Nilaveli in the Trincomalee district has been abandoned.

## PORTMORE TEA COMPANY OF CEYLON, LIMITED.

Registered on December 7th by Murray, Huthins and Company, 11, Birchin Lane, E.C., with a capital of £50,000 in £1 shares. Objects: To adopt an agreement with R. C. Bowie for the purchase of the Portmore Tea Estate, in the Agra Patana Division of the Dimbula District, Ceylon, and with Lionel M. Torin for the purchase of the "Aldourie" Tea Estate, in the Agra Patana Division, and to plant, grow, and produce tea, coffee, chinchona, cardomans, plants, etc. The subscribers are:—

| | Shares. |
|---|---|
| R. C. Bowie, Ravensby, Carnoustie, N.B. .. | 1 |
| L. M. Torin, Junior, Carlton Club, Pall Mall .. .. .. .. | 1 |
| W. H. Anderson, Rupert Lodge, Burnham, Bucks .. .. .. | 1 |
| J. R. Grant, 101, Leadenhall Street, E.C. | 1 |
| J. N. Shand, 24, Rood Lane, E.C. .. | 1 |
| R. C. Haldane, do. do. .. | 1 |
| R. E. Neale, do. do. .. | 1 |

The first directors (to number not less than three nor more than five) are: R.C. Bowie, L. M. Torin, and W. H. Anderson. Qualification £20. Registered office, 24, Rood Lane, E.C.—*Financial Truth*, Dec. 11.

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## THE CEYLON LAND AND PRODUCE COMPANY, LIMITED.

DIRECTORS:—James Wilson, Esq., Chairman, William Keiller, Esq, Sir N. A. Staples, Bart.

Report of the Directors, to be submitted to the Twelfth Annual General Meeting of Shareholders, on Tuesday, the 15th day of December, 1896, at 2 o'clock p.m.

Your Directors have tho pleasuro to submit the annexed profit and loss account and balance sheet for the crop year ending 30th June, 1896, duly audited.

The amount at credit of profit and loss account is £12,125, 15s 2d, which, with the sum of £437 0s 10d brought forward from last year, leaves £12,562 16s to be distributed.

On the 22nd July last, an interim dividend of 7½ per cent on the ordinary shares and 3 per cent on the preference shares was paid, and your Directors now propose to pay on the 24th day of December, 1896, the balance of the fixed cumulative dividend on the preference shares (3 per cent), making 6 per cent for the year, and 7½ per cent on the ordinary shares, making 15 per cent for the year, and in addition a bonus of 5 per cent on the ordinary shares —all free of income tax. It is also proposed to transfer £5,000 from profit and loss account to reserve fund, increasing that account to £7,000, and carry forward the balance of £1,675 16s, subject to the Directors' remuneration for the year under review, to be fixed at the general meeting, and to the payment of income tax, &c.

Your Directors are again pleased to chronicle the continued success of the Company, the Tea and Cocoa crops largely exceeding the estimates framed at the commencement of the financial year. The prices obtained for the Company's Cocoa mark an improvement upon those secured for the previous crop, but the net average for Tea was somewhat lower for the period under review.

TEA.—During the eleven months from January 1st to November 30th, the total number of packages from Ceylon Estates disposed of at Public Auction, amounted to 962,000, realising 8¼d. per lb. average compared with 896,800 at 8¾d. per lb. for the same period in 1895, so that the result should on the whole be favourable to the trade of the Island, owing to the larger out-turn, although the price realised shows a falling off. Deliveries, moreover, about kept paco with the fuller supply, and the London Bonded Stock on the 31st October only shewed a small increase over that of 1895, standing at 18,083,000 lb., against 16,382,000 lb. This must be considered satisfactory, as evidencing that the Market has been able to deal with the extra quantity shipped without any decided reduction in values. The Crop has been about an average one in quality. Quotations on the whole ruled below those of last year, especially in the case of the Common to Medium grades, owing mainly to increased shipments from other producing countries; but Fine an Finest met a good demand throughout.

It is to be noted with pleasure that the shipments from London to Russia, the Continent generally, as well as to Canada and America, continue to expand, the total figures for the first ten months of this and the two previous years to 31st October being:—

| 1896. | 1895. | 1894. |
|---|---|---|
| 6,684,000 lb. | 6,073,000 lb. | 4,400,000 lb. |

Cocoa.—The more hopeful view taken by your Directors of the prospects for improved values of this article has been realized, and a gradual advanee in the price of good to fine red Ceylon from 65s. up to 75s. per cwt. has taken place during the twelve months, although other growths have been much depressed. A further recovery in values is probable.

Coffee.—This article, as anticipated, has not maintained the values of last year, and the price of bold yellow Ceylon Liberian has fallen from 90s. to 75s. per cwt. The prospect of large supplies from other producing countries prevents hopos of a permanent recovery in values.

Acreages.—The following Statement shews the approximate acreage of the Company's Properties at date:—

| Names of Estate. | Tea. | Cocoa, Coffee & Coconuts. | Forest, Grass Chena, abandoned, &c. | Total Acreage. |
|---|---|---|---|---|
| Alloowiharie Group | 117 | 400 | 153 | 670 |
| Andangodde Estate | 135¾ | — | 40¼ | 176 |
| Fettcresso Estate | 405 | — | 33 | 438 |
| New Peradeniya Estate .. | 386½ | 17½ | 54½ | 458½ |
| North Matale Group | 296 | 822 | 459 | 1577 |
| Owella Estate | 26 | 75¼ | 159¾ | 261 |
| Rickarton Estate | 500 | — | 96 | 596 |
| Strathisla Group | 127 | 216 | 59 | 402 |
| Forest Land | — | — | 430 | 430 |
| | 1993¼ | 1530¾ | 1484½ | 5008½ |

Since the date of the last Report, the litigation therein referred to, which your Directors felt compelled to enter upon with the Company's late Ceylon Agents, has been brought to a successful issue, they having paid more than was claimed, and would have been accepted by the Company had an amicable settlement been come to at the beginning. Your Chairman, shortly after his arrival in Ceylon, discovered that the late Agents had debited the Company with unjustifiable items in account; he therefore instructed the solic'tors who were conducting the legal proceedings for the Company to claim repayment of such amounts. The result of the proceedings was that after protracted negociations, initiated by the defendants, and shortly before the date fixed for the trial, your Chairman decided to accept an offer that was made by them (the defendants) which settled the amount at their debit in tho Company's books, covered estimated amount of costs and charges connected with the litigation, also the Chairman's expenses during his prolonged absence, and in addition left a balance to credit profit and loss account with.

The crop prospects for tho season 1896-97 appear to be, so far, favourable, and according to last reports the estates were in excellent condition.

Your Directors are pleased to learn from reports brought homo by your Managing Director that he considers the present staff of Superintendents

Ceylon to be of a high standard of efficiency, and that they show much intelligence in all they undertake appertaining to the Company.

Mr. Henry Beveridge having placed his resignation in the hands of your Directors, they have, in pursuance of the power granted to them under the Articles of Association, elected Sir Nathaniel Alexander Staples, Bart., in his place. Sir N. A. Staples, Bart, by rotation, retires from the Directorate, but, being eligible, offers himself for re-election.

## MARKET FOR TEA SHARES.

THURSDAY EVENING, Dec. 10.

Notwithstanding a general easier feeling in the Stock Markets, Tea share prices are, on the whole, maintained, although here and there, especially among the Preference issues, a little weakness is manifested. Considerable lines, however, of the better known shares, which stand at relatively lower prices than others, continue to be absorbed by investors.

INTERIM DIVIDENDS.

Brahmapootra announces 8 per cent., as last year. The following are the companies which, thus far, have announced interims on the Ordinary capital for the current year's working :—

| | | | |
|---|---|---|---|
| Assam .. | 5 per cent. | East India and Ceylon | 3 per cent. |
| Balijan .. | 5 ,, | Jhanzie .. | 4 ,, |
| Brahma .. | 8 ,, | Jokai .. | 5 ,, |
| Chargola .. | 3½ ,, | Lebong .. | 5 ,, |
| Chubwa .. | 3½ ,, | | |
| Dooma .. | 5 ,, | | |

Other announcements are expected shortly.

Mincing Lane again rather easier for common and undesirable Teas, but steady to firm for fine classes. Quality tending to improve, and consumption, as well as export demand, good and increasing. Recent lower values in Calcutta seem also to be stimulating the off take thence for the Colonies, America, and other out ports, as well as for Central Asia (via Bombay).—*H. & C. Mail.*

## CEYLON AND CHINA TEA.

Judging by the tone of some remarks in the latest Ceylon papers, though affecting to pooh-pooh possible competition from China tea prepared by new methods, the island seems to be aware that China is waking up in the matter of her tea trade. It is said the tea-makers of China are not to be influenced or made to alter their ancient methods of manufacture, simply because a syndicate of British merchants, with characteristic energy, have started a factory with improved machinery on the sea coast. But this is not quite correct. No factory on the sea coast that we are aware of has yet been erected, though inquiries are now being made as to the most suitable machinery, &c. These teas have been prepared upcountry by the Chinese, though the suggestion has of course been made by the foreigner. The difference between the two classes of tea is not probably one of soil or climate, but one of preparation. The teas sold last week were prepared with the tannin largely retained, so that they liquor like Ceylons and Indians. To lovers of *real* China tea it would seem that the difficulty they now experience will be made even greater, and the soft, delicate flavour, hitherto its excellence, give place to rough, dark liquoring leaf.—*L. & C. Express*, Dec. 11.

## PLANTING AND PRODUCE.

(From the *H. & C. Mail*, Dec. 11.)

### CHATTY NOTES ABOUT TEA AND CINNAMON, COFFEE, B.C. AFRICA, &c.

THE PROSPECT OF TOO MUCH TEA.—Some of the Indian and Ceylon papers are sounding a note of alarm lest the cultivation of tea should be overdone, and are expressing the view that China and Japan will not remain content with the back seat they are forced to take as tea exporters. It is always safe to preach caution, and a warning against the exuberance which leads to unlimited cultivation is useful. The *Globe*, in re-echoing the advice thus given, sounds a note of warning on its own account which is in some respects a little too shrill. It says: "Enormous as is the world's consumption of tea, and largely as it is increasing, it seems to be a question whether supply will not exceed demand before very long. It is now very clearly demonstrated that the shrub needs only certain conditions of soil and climate to thrive and produce first-class leaves. It is equally proved that the required conditions exist in many parts of the world which have never gone in for tea growing. In both South America and South Africa initial experiments are said to have been crowned with brilliant success, while Russia is making a determined effort to supply her own requirements. At the same time, the outturns of Assam and Ceylon steadily increase, in spite of the discouragement afforded by lower prices. The Dutch East Indies are also beginning to compete in earnest, and there are some who believe that the industry would flourish in Northern Queensland. It may be taken for granted, too, that China will, before long, make strenuous endeavours to regain her lost hold on external markets; when the empire is opened up by railways, the cost of transport to the coast is bound to be largely reduced. All present circumstances thus point to the likelihood of a continuous augmentation of production, and unless consumption increases proportionately, tea drinkers will have a better time than tea growers. Happily, our Indian and Cingalese gardens have achieved such high reputation that they will enter into this competition with great advantages in their favour. But they should spare no exertion to cheapen cost without loss of quality. We do not think that Indian and Ceylon tea planters have much to fear from the threatened competition in South America, Queensland, and Russia. It is highly probable that Chinese and Japanese tea growers will make a strenuous effort to regain lost ground and that they will try new methods. This is a greater source of danger than any other. Yet it is well to be wise in time. There is a widespread notion that tea planting is very profitable, and that there is no limit to the demand for tea. It is very necessary, therefore, to lay to heart advice as to the perils of over-production, and the uses of economy in the cost of cultivation and manufacture.

CHINA AND TEA MACHINERY.—We referred last week to the effort which is being made in a small way at present to manufacture tea in China in imitation of the Indian and Ceylon methods. We now learn that this movement is favoured by capitalists interested in the China tea trade, and that operations on a larger scale will be undertaken by a syndicate. Machinery has been imported for the purpose, and great expectations are formed as to the advantages that may accrue to the Chinese tea trade in consequence. We have mentioned that in the absence of patent laws the Chinese may endeavour to imitate the British tea machinery thus imported, although for the present and for some time to come the chances of their being able to do this success—fully will be very small. So long as the experiment is controlled by British capitalists inventors of tea machinery will not run much risk in this direction. We should say that there is greater danger to inventors of tea machinery from the imitative skill of the Japanese. Should the Japanese tea-growers use machinery in their manufacture efforts will soon be made to turn out a complete native outfit. A "tip" for machinery engineers is given in a San Francisco telegram to the *New York Herald*. M. Oshina, technical director of the proposed steel works in Japan, and four Japanese engineers have arrived in that city on the steamer "Rio de Janeiro" from Yokohama. They are on a tour of inspection of the great steel works of America and Europe, having in contemplation an order to buy a plant costing approximately 2,000,000dols. They have informed the Americans that they will buy where

they can get the best and the cheapest. The plant when finished is to have a capacity of 100,000 tons. It will be built in the coalfields of Southern Japan. Both Martin and Bessemer steels are to be manufactured. "We want to put our country," said Mr. Oshina "where it properly belongs—in the van as a manufacturing nation."

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Planting in Central Africa.—The Right Hon. Lord Loch, G.C.B., formerly High Commissioner at the Cape, presided on Tuesday night over a large audience which assembled in the Whitehall Rooms to hear a lecture delivered under the auspices of the Royal Colonial Institute by Sir Harry H. Johnston, K.C.B., British Administrator in Central Africa, on England's work in Central Africa. In the course of his lecture Sir Harry Johnston said that at the present day, while the whole of British Central Africa, otherwise known as the British sphere of influence north of the Zambesi, was placed under a Commissioner and Consul-General, only that portion of it which was directly styled the British Central African Protectorate was administered by the Imperial Government through the said Commissioner, while the remainder lay under the charter of the British South Africa Company, and was administered by that body. The growth of that administration had merely kept pace with the increasing development and prosperity of the Protectorate. In 1891, when they commenced this direct administration, the total trade of Great Britain with British Central Africa scarcely reached the annual value of £30,000. At the present time the trade was over £100,000 in value per annum, the exports having risen from £3,000 in 1891 to nearly £20,000 in 1896, much of this being represented by the coffee grown in the country. In 1891 the Europeans in the British Central African Protectorate scarcely exceeded ninety in number. They now amounted to about 300, of whom about 100 were connected with the planting industry. In 1891 the total amount of coffee exported from British Central Africa was twelve tons, whereas in 1896 no fewer than 320 tons had been exported, and the prices touched by the recent samples had been almost the highest in the market, viz., 113s per cwt. Tea was grown to a slight extent and cinchona. Tobacco was extensively cultivated by one firm, who had started a cigar manufactory. Cotton was grown on one or two estates, and another company was developing the various fibres, some of which were of considerable value.

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The Quarterly Sale of Cinnamon.—At the periodical auction of cinnamon, the last of the series, held last week, only 1,400 packages Ceylon, or barely one-half the quantity put forward in November, 1895, were included. A brisk demand prevailed from both the home trade and exporters, so that the bulk of the above supply was taken off at enhanced rates. The medium and lower sorts realised ½d to 1d, and the finer and superior qualities 2d to 3d, per lb. advance on the prices ruling on the August sales, thus establishing the following range of quotations: Ordinary to fair firsts at 11d to 1s 1d, fine garden cinnamon at 1s 4d, superior quill at 1s 6d to 1s 7d, and very low at 8d to 9d; seconds from 10½d to 1s 2d, finest plantation at 1s 5d, and coarse at 7½d to 8½d; thirds from 7d to 1s 1d, and best at 1s 2d to 1s 4d; with fourths at 7½d, and 9½d to 1s per lb. The "unworked" portion went at from 8d up to 1s 1d for the commonest to the better kinds, with a few lots broken (in boxes) at 8½d to 9½d.

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The Blackwood Coffee Company, Limited.—Mr. Justice Chitty heard a petition last week asking the Court to confirm resolutions which had been passed for the reduction of the capital of this company. The company was formed in 1879 to cultivate coffee estates in Ceylon. The nominal capital was £100,000, divided into £5,000 shares of £20 each; 3,250 shares had been issued, of which 3,140 were fully paid up, the remainder (110) having been forfeited. Shortly after the incorporation of the company two estates were purchased for £58,000, but owing to the almost entire failure of the coffee crop in Ceylon the cultivation had been discontinued, and the estates were sold for £5,200 The directors estimated the present value of the Blackwood estate at £15,000, and the entire loss amounted to £37,800. This deficit it was proposed to extinguish by writing off £12 per share, and as the company had capital in hand, far in excess of its wants, it was proposed to return £2 per share. Resolutions had been passed for reducing the capital of the company from £100,000, divided into 5,000 shares of £20 each, to £39,340, divided into 4,890 shares of £6 each, such reduction to be effected by (1) cancelling 110 shares which had been forfeited, (2) cancelling capital which had been lost or was unrepresented by avail assets, to the extent of £12 per share on 3,140 shares, amounting to £37,680, and (3) by returning to the shareholders paid-up capital to the extent of £6,280, being at the rate of £2 per share, which was in excess of the requirements of the company. Mr. Carson, who appeared for the company, having stated the above facts, his lordship made an order sanctioning the reduction, and directed the company to use the words "and reduced" after its name for a period of one month.

## THE INCREASE OF TEA GROWING.

Enormous as is the world's consumption of tea, and largely as it is increasing, it seems to be a question whether supply will not exceed demand before very long. It is now very clearly demonstrated that the shrub needs only certain conditions of soil and climate to thrive and produce first-class leaves. It is equally proved that the required conditions exist in many parts of the world which have never gone in for tea growing. In both South America and South Africa, initial experiments are said to have been crowned with brilliant success, while Russia is making a determined effort to supply her own requirements. At the same time, the out-turns of Assam and Ceylon steadily increase; in spite of the discouragement afforded by lower prices. The Dutch East Indies are also beginning to compete in earnest, and there are some who believe that the industry would flourish in Northern Queensland. It may be taken for granted too, that China will, before long, make strenuous endeavours to regain her lost hold on external markets; when the Empire is opened up by railways, the cost of transport to the coast is bound to be largely reduced. All present circumstances thus point to the likelihood of a continuous augmentation of production; and unless consumption increases proportionately, tea drinkers will have a better time than tea growers. Happily, our Indian and Cingalese gardens have achieved such high reputation that they will enter into this competition with great advantages in their favour. But they should spare no exertion to cheapen cost without loss of quality.—*Globe*, Dec. 8.

## THE TEA TRADE IN RUSSIA.

Tea is the national drink *par excellence* in Russia; it is as indispensable in the food of the people as bread or meat, and is taken at all hours of the day. In every town tea-houses are found where a large glass of tea, with plenty of sugar in it, is provided at a cost of from three halfpence to twopence half-penny, according to the town and the position of the customers frequenting these establishments. In these circumstances it is only natural that the consumption of tea in Russia attains enormous proportions, and is yearly on the increase. According to the *Journal dela Chambre de Commerce de Constantinople*, Russia imported in 1894, through the port of Odessa, 15,692,000 kilogrammes (kilogramme=2,204 lbs) of tea from China. Through the Custom-houses of the Baltic large quantities of tea are entered, chiefly consigned to Moscow, or for local consumption, and by the land customs of Eastern Siberia, about 20,000,000 kilogrammes of tea, representing a value of about 50,000,000 roubesl, were imported. All the tea

imported by way of Odessa or other European frontiers is leaf tea, but that coming into the country *via* the Chinese frontier is chiefly tea in bricks of different dimensions. These teas are consumed by the nomads and the northern peasants, by reason of their cheapness and the facilities of transport. The customs duties on this kind of tea are much lower than those on leaf tea. In the various retail shops leaf tea is sold in packets weighing ⅛, ¼, ½, or 1 Russian pound at prices, varying according to quality, from 80 copecks to 5 paper roubles the pound, but as a rule sufficiently good tea may be purchased for 1 rouble 50 copecks to 2 roubles 50 copecks per pound. Russia exports annually a certain quantity of tea in packets, prepared by the large importing houses of Moscow, which are well-known throughout the whole of Europe. By way of Odessa, 30,000 kilogrammes were shipped in 1894 to the destination of Roumania, Bulgaria, Turkey, and Austria-Hungary. About two years ago tea from Ceylon began to be imported, but the quantity so far has been inconsiderable.—*Journal of the Society of Arts*, Nov. 27.

## COFFEE AND TEA IN MLANJE.

(From the *Central African Planter*, Nov. 1.)

We lately had a visit from the genial manager of the African Lakes Co. who has been at Chinde and returned via Mlanje. The Nyasaland Coffee Co. has also had a visit from the Mandala Gardener.

Owing to the bush fires being early this year, we have experienced great heat—the thermometer rising to 90 deg. in the shade. This is also the driest year on record in Mlanje, nearly two months with only ·27 in. of rain.

There is a splendid blossom in spike only wanting for sufficient rain to bring it out. I have seen a blossom stand in spike two months at both high and low elevations, and when the rain did come, the lower estates' blossom was burnt off at the collar and fell to the ground; the higher ones set well, resulting in a fine crop.

Tea is decidedly a promising product in Mlanje as we have tea bushes at three years old which would equal if not surpass any I ever saw at either a high or low elevation in Ceylon or India. The bushes were topped about eight months ago and regular flushes plucked about once a month or three weeks ever since. It is equal in flavour to high grown Indian and Ceylon and resembles very much in aroma the teas produced about Kandapola and Nuwara Eliya, Ceylon, which fetch very high prices in the London market. The Tea plant unlike our coffee seems so far to have no enemies and flushes freely all the year round, except during our winter months, May, June and July, during which time pruning should be done. It is satisfactory to know that we have another string to our bow should King Coffee (of course the better paying product of the two) fail, by the importation of leaf disease or otherwise.

Our coffee has been a good deal scorched by the late drought in fact many trees have suffered from sunstroke which I have not seen before in this country, so I am now convinced that suitable light lofty shade would not be out of place in some parts of Nyasaland. I shall give you my experience and opinion of shade in another paper.

## TEA PLANTERS AND THEIR WORK.

*Labore et Scientia.*

The popular conception of a tea-planter's life is a very hazy one. Those unacquainted with the true facts of the case, and who judge from a mere cursory glance of things, seen from the outside, imagine the life to be one continual round of enjoyment. To them it seems that all a planter has to do, is to mount his horse or pony, ride round the garden, if necessary swear at some of his coolies, and then return to his bungalow; have his beer or his peg, and spend the rest of his day, either in playing tennis or cards, or some other form of amusement.

* * * *

The vocation of tea-planting is just as as important a one as any other calling or profession in life, and should not be undertaken lightly. Directors and shareholders of tea companies at home are sometimes inclined to think that no educational outfit is required by those entering tea. That no qualifications are necessary, and that any booby will manage to get along, somehow or other, in the business. The result is that occasionally (thank goodness it is not often), dolts, utterly unfitted for any other calling in life, are pitch-forked into billets in tea. Influential personages at home, with sons or wards on their hands unable to pass the severe competitive tests for entrance into any of the professions or services, naturally turn with longing eyes to farming and planting industries abroad. The tea industry in India and Ceylon looms before them as a most desirable opening for their off-spring or proteges, so all the influence they can bring to bear on directors and shareholders is brought into play, and an appointment eventually secured, If the young men have received a sound general education, and been subject to discipline in some good school, they turn out well. But if they have been petted and spoilt in their homes, allowed always to have their own way, and work their own sweet wills, they cannot but help proving failures. Tea-planting is gradually but surely rising to the high level of a science. The call is now for young men with intellects trained to habits of thought and observation—the alumni of our colleges at home, who know by experience what study is, and who, when they join their appointments out here, will conti ue to study one, or more, of the branches of knowledge in which they have already received a thorough grounding. This is the class of men the tea industry wants from home. Men who have received their preliminary training, and who when they come out here, can at once catch on to some particular branch of knowledge connected with tea-planting and make of it a thorough study. To such men there is a vast field open for research and investigation. There is every opportunity for them to make a name for themselves. The harvest is great, but the scientific labourers are few at present. The industry for her ordinary wants, such as merely supervising the coolies, can obtain more than her requirements in this country.

The body of young men in this country, available for service on tea estates, are just as intelligent and well educated as the majority of those sent out from home, and equally good, if not better, in point of physique. They have the further advantage of being acclimatised, and knowing the people and the language can make themselves useful at once. Although they may possess no knowledge of tea at the first start, they very soon pick up their work, and are at home with their labourers. Not so the young men fresh from home. They are, and feel themselves to be strangers in a strange land. It takes them a long time to get accustomed to the manners and customs of the natives, and to settle down to their new life. The remarks do not apply to the men who come out as Mechanical Engineers. They are professional men and can make themselves useful from the day they first set foot upon a garden. As these men have been trained to manual (combined with intellectual) labour, so the planting industry requires men from home trained to mental (combined with scientific) study. Scientific men can, like their confreres the engineers or the doctors, start work at once on one or other of the special courses of studies they have elected and decided to make a speciality of, in connection with their general work on a tea estate. Possessing a thorough knowledge of the principles of the subjects they purpose making a special study of, they know exactly what to do and how to set to work to accomplish their purpose. The necessary materials being at hand, they can start experimenting without delay, and although their investigations will doubtless take time, being naturally a laborious process, still they are doing

olid good work for the advancement of the so much-needed knowledge. Whatever works they initiate are done with a purpose, and directly tend to fruit bearing in due course. No haphazard slovently methods are adopted, but the latest systems in vogue, and the most recent discoveries of the scientists, the world over, are employed in the analysis and synthesis of the work in hand. For the outdoor *i.e.*, garden work, men who have graduated in some standard agricultural college, and have also made a study of entomology are the class most needed; for factory work, men who have gone through a course of study in the laboratories of well known chemists and scientists, in which scientific experiments have been systematically carried on. It may be urged that this class of men can always find ample congenial work at home and would not care to come out to tea gardens. They certainly would not on the meagre pittances at present apportioned to the young men sent out. But if sufficient inducements were held out doubtless advantage would be taken of them. Men who have received years of special training and education at a heavy outlay, will certainly not come out to this country on small salaries. But to engage the services of such men, at whatever cost, will repay the industry a hundred fold in the future. The old and experienced planters, whose services are being dispensed with, yearly to make room for the new importations of raw youths from home, would not have such just reason to complain if the recruits were specialists but when they have to give away to youngsters, whose only recommendations are rich or influential relatives at home, their cup of woe is not only filled to the brim, but runs over. The draught, bitter enough at the best, is made all the more poignant by the knowledge that their places are being filled by others, who are not as competent as themselves to fulfil even the most ordinary duties on an estate; others, who cannot "hold a candle" to them in respect to their abilities. The industry undoubtedly suffers from the dismissal of old and experienced hands. Introduce "fresh blood" by all means, but not at the sacrifice of old and faithful servants, who have devoted their whole lives to the cause, and who have been instrumental in bringing up the industry to its present pitch of prosperity. These men but require scientific men to help them, and as in the past they have done their duty and gradually worked up the industry to its present greatness, so in the future, they will, with the assistance of competent men, raise tea-planting to the status of a science. The progress will be from within, and developed by the men in the ranks themselves, and although help from exterior sources will be gladly welcomed, planters, as a body, will not need to look to outsiders to advance their interests. Their hands strengthened with the right stamp of men from home, they will be in a position to cope with all difficulties, surmount all obstacles, and build up the tea-industry on a broad and solid foundation.—*Indian Planters' Gazette*, Dec 19.

## BOTANICAL STAFF, CEYLON.

The Royal Gardens, Kew, Bulletin of Miscellaneous Information. Appendix III. 1896, has for contents:—List of staffs in Botanical Departments at Home, and in India and the Colonies. For Ceylon we quote:—

CEYLON.—Department of Royal Botanic Gardens:—

| | | |
|---|---|---|
| | Director | *John C. Willis, M.A. |
| Peradeniya | Curator | †Hugh McMillan |
| | Clerk | J. Ferdinandus |
| | Draughtsman | W. de Alwis |
| Hakgala | Superintendent | †William Nock |
| | Clerk & Foreman | M. G. Perera |
| Henaratgoda | Conductor | S.de.Silva,Arachchi |
| Anuradhapura | ,, | D. F. de Silva |
| Badulla | ,, | D. A. Gunoratne. |

* Recommended by Kew. † Trained at Kew.

We are glad to see worthy Mr. Macmillan made "Curator,"

## THE TEA MARKET.

In the Tea market, though business at this period of the year slackens down, prices rule at so moderate a range there seems no margin for a further drop; indeed, good liquoring Teas encourage competition. The inferior qualities from all sources are in excess. The machine-made China Teas promise to make headway, and, with a demand created, must interfere with the Ceylon industry; meanwhile, deliveries of the latter for the twelve months show a marked increase over 1895.—*L. and C. Express*, Dec. 18.

## MARKET FOR TEA SHARES.

Thursday Evening, December 17, 1896.

A fair business continues in many of the Tea companies' shares, though the range of price is a little lower, and the lines sold are not quite so large. Many, however, of the best reputed shares still stand at high figures.

Mincing Lane has again gone a little easier for the lower grades, but sales are now beginning to be curtailed in quantity for the Christmas closing. Calcutta advices by mail, just in, show further increased absorption for Australia, Central Asia, and other ports.—*H. and C. Mail*, Dec. 18.

## PLANTING PROSPECTS.

### BRITISH CENTRAL AFRICA.

At a meeting of the Royal Colonial Institute on Tuesday, Sir Harry H. Johnston read a paper on England's work in Central Africa. The chair was taken by Lord Loch. Sir Harry Johnston said that the administration of British Central Africa was begun in 1891, when the total trade of Great Britain with that part of the world scarcely reached £30,000 annually. At the present time it was over £100,000. The local revenue had risen from £1,700 to £22,000. There was reasonable hope that before long there would be a continuous line of railway from the East Coast of Africa to the healthy districts, where the coffee planters were established. Besides coffee, tea was grown to a slight extent and cinchona. Tobacco was cultivated by one firm; cotton was grown on one or two estates; another firm was developing various fibres; and gold miners were already busy in the western districts, where gold was believed to be present in paying quantities. There were also several valuable deposits of coal; hematite iron was very abundant; and the forests afforded valuable timber, indiarubber, and gum. A young planter going out to the healthier portions of the protectorate ran no more risk than he would in going to Brazil, while he could start with infinitely less capital and would find abundant and cheap native labour. Sir H. Johnston said he did not believe in the eventual colonization of tropical Africa by the white man.—*London Times*, Dec. 11.

## PLANTING IN; AND CLIMATE OF, NYASSALAND.

Mr. J. W. MOIR's paper on the climate of Nyassaland accepted for the British Association, is promised to us for the *Tropical Agriculturist*. In a letter dated Edinburgh, 28th November, Mr. Moir writes:—

"Your *Tropical Agriculturist* I have taken from its beginning, as Manager of the African Lakes Corporation, and have found it most useful and stimulating. It was a remark of one of your contributors that started me on Agriculturals Chemistry. Now, I am spending my whole days analysing my own coffee soils."

## THE NAHAVILLA ESTATES CO., LTD.

### REPORT OF DIRECTORS.

The following is the report of the directors submitted at the annual meeting :—

The directors have the pleasure to submit their annual report together with a statement of accounts for the year ended 30th September 1896.

The coffee crop this last season has been a short one as compared with the harvest of 1894-5 and the year's profits have in a great measure been delivered from tea, the output of which was 221,976 lb. not reckoning some Mahapahagalla leaf sold in the green state.

With the amount carried forward from last year the profit and loss account shews a balance of R42,216·78 at credit after paying an interim dividend of 6 per cent and all expenses in connection with the conveyances of Mahapahagalla and Gallella estates besides other legal outlays. The directors now recommend that a final dividend of 7 per cent (making 13 per cent for the year) be paid which will absorb R27,330·00, and that the balance, subject to director's fees and an allowance for Secretariat, be carried forward to season 1896-97.

During the past season some small addition has been made to the area of Ury, and the acreage of tea on that estate, has been largely extended, there being now 478 acres under that product, against 311 acres this time last year.

Since the shareholders last met the purchase of Gallella estate in Maturata has been concluded by the directors. The price paid was £7,000 stg. : and particulars as to the acreage of the property are given below.

It is thought, that the coming coffee harvest will be better in the matter of quantity than that of 1895-96, and the output of tea will also, it is believed, be larger.

The following is a definition of the Company's property as at present constituted.

| | Nahavilla. | Ury. | Mahapahagalla. | Gallella. | Total. |
|---|---|---|---|---|---|
| Tea in full bearing.. | 195 | 177 | 170 | 320 | 862 |
| Do partial Bearing .. | 78 | 32 | 25 | .. | 135 |
| Do not in bearing | 61 | 269 | 22 | 3 | 355 |
| Coffee .. | 120 | 48 | 35 | ... | 203 |
| Forest .. | 44 | 66 | 5 | 72 | 187 |
| Cinchona, patana, scrub, chena, &c.. | 103 | 85 | 66 | 244 | 498 |
| | 601 | 677 | 323 | 639 | 2240 |

Mr. W. Anderson retires by rotation from the board of directors, but is eligible for re-election.—By order,

GEORGE STEUART & Co.,
Agents and Secretaries.

Colombo, 8th December 1896.

## THE RATWATTA COCOA COMPANY, LIMITED.

An extraordinary general meeting of the shareholders of this Company was held at the Queen's Hotel, Kandy at 10-30 p.m. on Saturday. Present Messrs. Gordon Pyper (in the chair) and E. Jeffries, Directors. Messrs. M. Athorpe, J. A. Burmester, T. B. Campbell and J. A. McGillivray representing the Agents and Secretaries—By Attorney Capt. A. Burmester and Mr. F. M. Mackwood, and by proxy Messrs. J. R. Fairweather, A. G. Seton, S. P. Blackmore, A. Collingwood Smail and G. J. Jameson.

Proposed by Mr. Gordon Pyper, seconded by Mr. M. Athorpe and carried unanimously.

1. That the share capital of the Company be and the same is hereby increased from R150,000 to R200,000 by the creation of 100 new shares of R500 each.

2. That the remaining uncultivated area of the Estate (400 acres) be planted up with Tea—

The meeting closed with a vote of thanks to the chair.

## CINCHONA CULTIVATION IN INDIA.

The report on the plantations in Bengal states that the capital cost of the plantations has long since been paid off, and that the sole object of the Government is now to secure for the people of India a cheap remedy for fever without loss. The whole of last year's crop, amounting to 467,190 lbs. of bark has been made over to the quinine factory, with the exception of small quantities supplied to medical depots or sold to Government institutions; and 170,000 lbs. has been bought from various tea Companies in Darjeeling. The factory has produced 9,004 lbs. of quinine sulphate, and 3,124 lbs. of cinchona, febrifuge. There has been an increase of 2,725 lbs. on the issue of quinine sulphate, partly owing to the demand for pice packets to be sold through the post office, and partly to the demand in connection with the Chitral expedition. The stock of quinine sulphate at the end of the year was 2357 lbs., and that of fabrifuge 748 lbs. The scheme for the sale of quinine through the post office department makes steady progress, and the demand is increasing with such rapidity that it has been necessary to limit the sales in Bengal and Assam, and to discontinue the supply to other provinces. As a further satisfactory result of the operations, it appears from the Sanitary Commissioner's report that there is a general correspondence between fever mortality and the demand for quinine. The severe drought of last year has had a very damaging effect upon the young seedings intended for extending the plantations, but, on the whole, the Lieutenant-Governor considers the results obtained to be entirely satisfactory.—*Planters' Gazette*, Dec. 1.

## CEYLON AND INDIAN TEA IN AMERICA.

"A new Tea Company called the Marzapoura Tea Company, has lately started in New York, Brooklyn and surrounding towns. They have ladies canvassing from house to house, and are advertising extensively with papers, have large board signs in every elevated railway carriage (some 700 in number) large posters at railway stations, a tea room at one theatre, and have rented a room for $1,800 in a principal street, which they are to open as a ladies' tea room, after the fashion of similar rooms in London. All this means expenditure of a deal of money on behalf of Ceylon and Indian tea, since it is these they sell."

*De gustibus non est disputandum.*

It is often difficult to decide which is the better of two articles which depend for their value to a great extent on habit, faith, and individual opinion.

A chemical test may determine which of the two has the most *wholesome* ingredients, as *wholesomeness* goes this year or this decade, but the fickleness of medical authority is proverbial.

Then, analysis may show that the component parts of one article are, at the present moment, standing at a higher price in the market than those of the other. But next year's harvest may reverse the position.

When we find, however, that an article which has had possession of the field for generations is being rapidly driven out of all civilized countries by a young and more expensive rival, we may

reasonably conclude, that some MERIT has been discovered in the new article, which was awanting in the old.

A signal instance of *unanimity* of public judgment is the gradual disappearance of the old teas of China, before their young rivals from Ceylon and India. Inherently there is great similarity in the analysis of those teas. But *the methods of manufacture* make all the difference. The old teas of ancient nations are made by hand processes in the unclean hovels of Mongolians.

*Mark the contrast.* The modern teas of white Capitalists are made by *machinery* in AIRY, CLEAN and MODERN FACTORIES. W. McK.

## HARD LABOUR IN THE TROPICS.

The scene is a lovely tropical Isle, about which Poets and Travellers have raved through many volumes. The time is early morn, when the first rays of the sun are seen in the East, shooting far up athwart the gray sky, heralding the speedy approach of the God of Day, while towards the West, the stars are still shining. For in this latitude, Dawn and twilight are short—the change from darkness to brilliant sunshine in the morning, and the reversal of the order in the evening, being matters of only a a few minutes. These rapid changes, too, occur at almost the same hours throughout the year, say from 5-45 to 6 a.m and again between 6 and 6-15 p.m.—the length of the day being always 12 hours.

All nature awakes suddenly. In the jungle the birds are singing, in the marshes the toads are croaking. Round the huts of the natives, dogs are barking and roosters are crowing.

The rat-a-tat, rat-a-tat of a tom-tom drum is being beaten to summon native workmen to their muster ground and they can be seen tightening up the long ends of their many colored cotton garments, as they walk along by the devious roads, which starting from the lines or villages where they live, converge towards the factory. They are of both sexes and of all ages from 6 to 60. In truth, I might say from 3 months to 60 years, as many of the mothers carry babies in their arms; while beside fathers and mothers, trot several infants naked as when to earth they came.

When mustered and counted, they are sent in gangs to different parts of the plantation. The men, peradventure, go pruning; or armed with crowbars and shovels, go clearing fresh land, cutting roads or digging holes for plants, or a new field opened, for the further extension of the cultivated area.

The women and children are sent to light work, such as pulling weeds or gathering crop from one or the other of the many plants, cotton, coffee, cocoa, or tea, which grow luxuriantly in these happy Isles. Headmen or overseers accompany the laborers in the proportion of about one to twenty. Besides the cotton garments worn by all, these petty chieftains generally wear a coat of some thick woollen material—often an old one of masters—the owner of the plantation—and they invariably carry umbrellas. If an umbrella covered with a brilliantly red cover, to obtain which is the acme of his ambition, cannot be procured, then the headman or "kangany" as he calls himself must be content with a black or white one—but an umbrella there must be; and one often meets several kanganies walking with their umbrellas open long after the sun has gone down, protecting their dusky countenances from the light of a misty fickle moon, or an unlucky star. Vanity, as expressed in parti-colored sun-shades, is not peculiar to women.

Arrived at the field of operations, one laborer is told off to each row of shrubs to prune, pluck or whatever the work may be. Among them are many good singers—as they judge singing. One of such is told by the Cangany to "strike up." Then follows what we all have heard in more advanced gatherings. He or she pleads a cough, or inability to sing, or the lack of any incidents worthy of song. For your native, in this case, improvises as he goes along, and does it, too, very cleverly. After the usual badinage he does "strike up," sometimes a chant which all know, with a chorus, which all join in; sometimes a verse which is responded to by another, when the song take the shape of a duet. Or the singer improvises, and touches in rhythm of measured length or cadence on such events as their simple life supplies—the goodness or otherwise of their curry—flirtations of Ramon with Letchemie—the glances which Sadion was seen to throw at Salachy, during the absence of the latter's husband Coropin—or the doings of the Cangany or Master, for even the follies of their white employer are fearlessly shot at by these fun loving rogues.

A wise employer always encourages this singing, as while it goes on, all the laborers, even when joining in a chorus diligently attend to their work. On the other hand, when no one sings, chattering, chaffing, arguing and laughing are incessant, and work is less carefully done.

About mid-day, there is a halt, and the crop gathered by each laborer is weighed, counted or measured. In the illustration photo you sent me, Master has come, and is awaiting the arrival of carts which are to carry the produce from the basket to the factory. The pluckers have gathered around him, and are sitting examining their baskets lest any foreign substance, or portion of branch, or even too coarse a leaf, may have found its way into them.

Even these children of the sun feel the heat at noon on a sultry day, and are grateful for the rest this halt gives them. At this hour, too, many of them take "a snack"—the simple lunch they affect being brought to them by children or friends from the villages, or, as is often the case, having been brought out by themselves in the morning, carefully rolled up in a banana leaf or a handkerchief.

Then to work again till 4 p.m. when a horn is blown with a note as lugubrious as that of an Atlantic steamer during a fog, as a signal that work is over for the day. The gangs are again mustered and counted, and the day's work checked. As soon as dismissed, away they all rush singing and shouting, chaffing and chasing each other. Old and young, they are all as happy, *because as thoughtless and improvident*, as kittens or puppies at play.

Bless them! they care nothing for politics or stocks; winter and want are unknown to them, they have free houses, fuel costs them nothing, and two cents worth of oil gives them all the light they want for a month. They can dress extravagantly on two dollars a year, the tax collector never visits them, Tammany never squeezes them, and when ill, doctors, medicine and food are supplied gratis.

These labourers are absolutely free, and can leave their employer without notice, if their wages are 24 hours overdue.

They work only three or four days a week, for though the employer is obliged by law to find them work, or at all events, pay them, should they desire to work six days, they never do desire it. Even when crop is ripe and all hands are needed, it is useless to appeal to them to "turn out" one extra day. No! their few wants can be supplied by four days' work, and their philosophy inculcates no work not actually necessary. As for "next year," or a "rainy day," "well, 'Sammie poorium,' or 'the Lord may provide!' but, we 'count not our troubles before they come.'"

This picture is one of a Ceylon tea plantation and from such leaf as is observable in the baskets above, is made by *machinery* the famous new and pure teas of Ceylon and India, which have supplanted the coloured and adulterated hand-made teas of China and Japan, in nearly all the tea markets of the world. W. McK.

"Hard Labour in the Tropics" is an answer to assertions made in U.S.A. that coolies are *slaves.*

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## WHEAT:—INDIA'S SCARCITY—AMERICA'S OPPORTUNITY.

The rapid rise in the price of wheat has come as a surprise, as well as a blessing, to the thousands of western farmers, who have been struggling for years against dwindling prices, and who were told by Bryan and other silver blatherskites that no rise of any consequence was possible until silver was placed on a par with gold. Or in other words, until these honorable gentlemen were empowered by Law to pay their household bills of $100.00 with $60.00.

Short crops in Europe, locusts in the Argentine and drought in Australia, have all helped to stimulate the upward trend of prices of grain. But the chief factor has undoubtedly been the dry weather and water famine in the Northern, Middle and Western Provinces of India. From being an exporting country, India has suddenly and unexpectedly become an importer of wheat. True, the imports have not as yet been large, and it is to be devoutly hoped they will not become so:—as that would mean that famine, with all its dire consequences, had overtaken its peaceful and industrious populations of an ancient and interesting country.

To us, good Americans, who are in the habit of regarding the west as the most marvellous portion of the Earth, the word India is as Mesopotamia. We think of it only as a vast country which good old "John Bull" has exploited to his own advantage, rather than for the good of the teeming millions of many Races and Religions who inhabit it. "John's" bold and adventurous seadogs, who pursued the Spanish, French and Dutch explorers into all parts of the new Continents and Islands discovered in the 16th and 17th Centuries, and by dint of hard knocks, marauding and privateering, generally succeeded in reaping where others had sown, have left him a legacy of a bad name, which his many good deeds since, have failed to eradicate.

But let us think for a moment of what "John" has done in India. Unless it be the astonishing one of his own recent success in Egypt, *with administrators trained in India*, we doubt if the history of the world can furnish a similar instance of improvement in the internal Government of a nation.

A hundred and twenty years ago, India, far from being a homogeneous nation, as the one name for all of it would imply, contained as many different countries, rulers, races and religions, as our great republic has states. The nations were constantly at war with each other:—the robust and warlike tribes of the North-west and mountainous regions, annually devastated some portions of the great plains and fertile valleys of the Indus and Ganges, whose lazy, cowardly and cringing inhabitants seldom offered any resistance. Besides these, what might be called—invasions by neighbouring nations—bands of well armed robbers called Dacoits, roamed at will over the continent of India, burning, pillaging and ravaging without check or restraint.

At that time "John" or "John Company" as he was called, was a peaceful trader in Calcutta. To defend himself from a repetition of the awful tragedy of the Black Hole of Calcutta, he had to arm some defendants and to fortify some territory beyond the walls of that city. From this small beginning, "John" was literally forced in self-defence by the incessant attacks of barbarous neighbours on his everwidening frontiers, to annex and occupy province after province, until his strong but peaceful sway has made life and property safer in a vast region containing 300,000,000 of people, than they are now, in our United States.

This population too has doubled during the last 100 years, and there seems to be no limit to its extension. Before the reign of "John," internal wars, consequent famines, with their never failing attendants, Cholera and Pestilence, kept down the population. By roads, canals and railways, besides suppressing wars and dacoitry, "John" has to a great extent put an end to famines.

When rains fail and crops are short, relief works are started, wells are dug, and food is purchased and poured into the threatened province. Pestilence is combated by science, for doctors, dispensaries and hospitals abound. The consequence is that population increases with tropical rapidity.

Without the aid of immigration, the increase is actually, not comparatively greater than that of the United States. And when the last trumpet sounds, and "John" is asked, "What of thy brother?" he can point to the vast increase of a native race under his sway. But what answer have we to give as regards the Red man, the Spanish of the Mexicans, or the Australians of their dusky predecessors?

As already indicated, it is in the northern middle and north-western provinces of India that wheat is the staple food. Rice is the mainstay of the East, Central and Southern Provinces, known as Madras and Travancore. In the north-east provinces it has been many years since the government has been called upon to find food and work for the people because of famine.

The Indigo fields employ many; numerous factories are working with large gangs of natives; and the Tea Industry which has sprung up like a Gigantic Exhalation gives work to hundreds of thousands of laborers from the congested districts. To give some idea of the strides made by tea, it will be enough to say, that where India a few years ago imported tea from China, it now not only supplies its own wants but will export about 150,000,000 pounds this year.

In Southern India actual famine is rare, as is a very ancient, extensive and elaborate system of irrigation. The people of Southern

India called Tamils, are industrious and enterprising. When long drought brings the pinch of scarcity upon them, they swarm in hundreds of thousands across to the little Island of Ceylon, ancient Lanka. There, they find relief and plenty of work, on the flourishing Tea Gardens.

Perhaps no industry ever grew so rapidly as that of Tea in Ceylon. Fourteen years ago, the export was 1,000,000 pounds, this year it will reach 105,000,000 pounds. The Teas of India and Ceylon have only recently been brought to the notice of the American public, but ther superior strength, purity and flavour are already making them household dainties.

Americans are great travellers, but only a few penetrate as far as India, yet that country would well repay a visit, and we would advise all who go there, first to read the glowing pages of Macanay's Essays on Clive and Warren Hastings, India's ancient civilization, its temples, its grand ruins at Delhi, Lucknow, Benares and a hundred other places and the Taj at Agra, the "glory of the world" would all teach us to be less boastful of our hideous twenty storied modern iron structures.

A RECENT SOJOURNER IN INDIA.

## PLANTING AND PRODUCE.

(From the *H. & C. Mail*, Dec. 18.)

A TEA DEALER'S VIEW OF INDIAN TEA PROSPECTS.—It is not often that tea dealers are sympathetic with tea growers, or show any disposition to weep tear for tear with them. The following note on Indian tea prospects issued by Messrs. Brooke, Bond and Co. is interesting, not only on account of its review of the position generally and its fervent advocacy of British-grown teas, but also by reason of its appreciation of some of the difficulties which attend the planter. The following is the note referred to: "The Government figures show that the British people drank more tea in the last financial year than in any previous twelve months; and in these days of foreign competition it is gratifying to know that though thirty years ago all our tea came from China, very nearly all we consume nowadays is grown on the British soils of India and Ceylon. It is hardly possible to think of India just now without being depressed by the appalling famine which has so sorely smitten that densely-populated Empire. Though our Government can and will save the lives of many millions who would otherwise perish, it will be impossible to prevent the awful misery of starvation, extending over many months, with resulting life-long weakness. Though the famine will not appreciably affect the quality or quantity of Indian tea, it is indirectly a disaster to the British planter, for the doubling of the price of rice means nearly doubling the cost of cultivating his crop. Under every contract between the tea garden coolie and his employer the latter is bound by the Government to provide for staple food—rice—which the coolie may require for his family at a price not exceeding a certain normal limit. If rice is cheaper, the cunning coolie can buy his rice elsewhere, but so soon as the market price touches the stipulated limit he and his family flock to their master's granary and demand all they want at a price which already in this famine is but half that which the planter has to pay. Fortunately the drought has come too late to lessen the new season's growth of leaf in the Indian gardens, so the tea-loving English public will get their tea at the same price as usual. As to the general quality of this year's output, it may be classed as 'average,' and whilst '96 will not be known as a 'vintage year' in tea, the leaf this season is very good. Unfortunately the excessive rainfall in England early in the autumn has not improved the tea-making properties of the water now being supplied to our northern towns, but if the British house-wife will only buy teas of universally good repute, and will make her tea carefully, she will have every reason to be satisfied with this season's infusion of her favourite leaf."

THE WONDERFUL CAUCASUS.—The Caucasus seems the modern Land of Promise. Not only is tea cultivation the subject of great expectations, but M. Rotovosky, a well-known Russian botanist, has just published a report on the medicinal plants in the Caucasus. During last year he carried out experiments in the cultivation of these essential oil plants, and at the same time investigated the Caucasian flora. He discovered about 100 varieties of medicinal plants. The satisfactory results of his investigations have induced the Russian Government to cultivate the castor-oil plant in the Caucasus, with the view of providing Russian firms with large quantities of this drug. M. Rotovosky has been appointed to superintend this undertaking.

COFFEE PLANTING IN CENTRAL AFRICA.—In our reference last week to Sir Harry H. Johnston's paper on Central Africa and planting operations there we mentioned his reference to the development of the coffee planting industry. The British administrator, in the course of his paper, read an extract from the report of a well-known firm of colonial brokers to an industrial mission in Central Africa, which especially concerns itself with the spread of coffee-planting amongst the natives. This report says: "With reference to the shipment of thirty-four bags of Nyasaland coffee just arrived, we have carefully examined the samples, and the quality of the coffee reminds us of high-grown Ceylon coffee in its palmy days. It is a good, bold plantation bean of rather open character, well prepared and dried, and from its stylish appearance would always command a ready sale, being well liked by both home trade and export buyers. It is singular that although every effort is being made all over the world in coffee-growing districts to produce fine quality, it is quite the exception such a result as yours is obtained. The two bags of peaberry that realised today 107s per cwt. would fetch 115s in larger quantities of fifteen to twenty bags and upwards. The same remark applies to a certain extent to the other small lots. "A reference," said Sir Harry Johnston in his paper, "is made in this quoted opinion to Ceylon coffee. It has been a great satisfaction to me to note the interest taken in our Protectorate by the Ceylon planters, who very soon made inquiries about our country, and two years ago established a strong Ceylon company, the Nyasaland Coffee Company, which is now busily planting in the Mlanje district of our Protectorate."

THE PLANTING OUTLOOK IN JAVA.—The crop prospects do not appear to be bright in Java. Drought is complained of, and the outlook for produce generally is not encouraging.

THE PLANTING OPERATIONS OF THE BRITISH NORTH BORNEO COMPANY.—At the half-yearly meeting of the British North Borneo Company, held on Tuesday, the chairman (Mr. R. Biddulph Martin), referring to the planting operations of the company, said that arrangements were now being made to cultivate on a large scale ramie, for which it was believed there would be a practically unlimited market. The syndicate interested in that matter had already engaged a manager, who would shortly proceed to Borneo. The growth of indiarubber would, he hoped, also receive attention. This was a product which was in increasing demand, and could only be cultivated in certain parts of the world. The result of the tobacco-planting operations of 1895 had been, generally speaking, highly satisfactory, and the prospects were most encouraging. Then they had a syndicate engaged in the manufacture of cutch, and they heard that it was doubling its plant in their territory. In reviewing the present position of the company as compared with former years, he could not help being struck with the marked improvement that had taken place. The constant de-

ficit shown in the earlier years between the revenue and expenditure, amounting to £62,000 in the first year, was gradually diminished until in 1895 the balance was for the first time on the right side. The amount of that credit balance was more than doubled in the first half of the current year, and if their surplus continued to increase from year to year as rapidly as the deficits were reduced they would not have much to complain of in another ten years. The volume of trade in the country was what they had to look to in order to find out their real position and prospects, and with this they had cause for satisfaction. In 1895 the imports were 1,663,000 dols and the exports 2,130,000 dols, while for the first six months of 1896 the imports were 898,000 dols and the exports 1,850,000 dols, which was a very large increase. He believed they had now not only turned the corner, but had made good progress in the right direction.

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A SUGGESTION TO WEST INDIAN PLANTERS.—Mr. Thos. T. P. Bruce Warren, of the Indiarubber, Guttapercha, and Telegraph Company, Silvertown, suggests that the West Indian planters should cultivate Indiarubber. He says: "I have no hesitation in saying that the West India Islands are well situated, geographically, for the cultivation of indiarubber of good quality, and, looking at the fact that our supply is diminishing, I think that our Government may assist the West India planter with seeds or saplings of different varieties or species, to find out what plant will be best suited for the soil and climatic conditions, and, what is of equal importance, what plants can be depended on to yield a profitable product as soon after planting as possible. Arborescent plants, as a rule, yield better qualities of rubber, but, of course, must stand a few years before being tapped; vines and creepers reach maturity sooner for yielding, and, although the quality is inferior, it is far more encouraging to a planter to obtain a commercial status for his product than to place the whole of his venture on more ambitious hopes. It is not unreasonable to try plantations of plants yielding indiarubber quite equal in quality to what we get from Central America, or even Brazil. An inspection of the map will show that they are in the same physical zone, and, being so near to the American coasts, there is a fair prospect of success; but, of course, a few years will be required before a tree can be freely tapped."

## INDIARUBBER IN AFRICA.

### THE LANDOLPHIA VINE AND THE LAGOS-RUBBER TREE.

SIR,—I have read, as I am sure many West-Coasters will have read, with great interest your article in the *Spectator* of November 14th on india-Rubber, and I should much like to ask the learned writer thereof if something might not be done to reinstate the rubber-vines in those West African districts where the wasteful way in which the natives have collected it has stamped the trade out, and whether this reinstating might not be effected by the judicious felling of timber at a slight expense, because, if done judiciously, the timber felled would be of value and help to pay expenses. From what I have seen of the rich rubber districts of Western Africa stamping-out of rubber in a district arises primarily from the native pulling down every rubber-vine he sees and cutting it up into small pieces with a view to putting those pieces round a fire and running the rubber into a calabash; or, when the vines are too strong for him to do this, making murderous wounds on them with his machete; secondarily, it arises from the very trying habits of the Landolphia in insisting on starting life from a seed—it will not send out side branches if its top is cut off, and it will not send up shoots from its roots. Now in dense African forests the chances of seeds are few and far between. They fall upon the ground 150 ft. or 200 ft. below the region whereon the sunshine and the rain plays. You may go for months through the great Forest Belt of Africa in a grim twilight gloom, seeing nothing day out and day in but countless thousands of bare grey tree-stems festooned with great bush-ropes twined and twisted round each other and round the tree-columns, as bare of foliage as a ship's wire rigging, and looking like some Homeric battle of serpents arrested at its height by a magic spell. If your way takes you on to a mountain-top and you look down on the country you have traversed you can hardly recognise it in the wild, luxuriant mass of beauty, redolent in colour and perfume, that stretches before you, the top of the forest; but if you keep on the level ground you will come now and again to an oasis of new life where one of the forest giants having grown above his fellows and so given the tornado a grip on him, has been destroyed. He has been cast by the tornado wind a wreck to rot, or turned in a second from a glorious living thing into a seared skeleton by the tornado's lightnings. If you will carefully examine such an oasis of new life, caused by the sunlight and rain reaching the ground instead of the top of the forest, you will see thousands of young plants coming up, and among the medley you will, I think I may say, always see young rubber-vines. A very few of these vines will ultimately survive; only those, in fact, which by their wonderful hook-tackle arrangements have gripped on to the two or three saplings of great forest trees which are destined to win in the race for life with their neighbours, and take the place of the great fallen monarch tree and those round him which have been wrecked by his fall. Of course, to carry out clearings in West African forests means the institution of a Forestry Department like that of India, and this for trade purposes is not immediately required; for the quantity of rubber in West Africa is enormous. The Kicksia, the Lagos rubber-tree that has been brought so profitably forward by Sir Alfred Maloney and Sir Gilbert Carter of Lagos, is by no means confined to Lagos. It grows in great luxuriance all along the South-West Coast; but at present the African does not know it is a rubber-tree down there, and confines his attention to the vines, to Landolphia Owariensis, from which he gets the high quality rubber; to Landolphia florida, from which he gets flake rubber; and to five other bush-ropes, from which he gets a sap which is not true rubber at all, but which he uses, with many other things, to adulterate his rubber with, to the end of making it heavier, because it is bought of him by weight, and it is his nature to adulterate everything that passes through his hands. A Forestry Department is, however, a great need in those portions of the West African Coast that fringe the Western Soudan, like the Gold, Ivory, and Slave Coasts. The forests here are only fringing forests between the Sea of Sand, the Sahara, and the Salt Sea, or the Bight of Benn, and are in danger of being destroyed by the native, in his terribly destructive way of making his farm,—clearing a patch of bush, cultivating it for a season, then letting it go into a worthless jungle; and clearing another patch. Such disforested regions you will find round Accra and the Elmina Plain; and in those regions of this disforested land most remote from the Forest it is almost impossible now for the native to make a plantation whose yield is sufficient for his needs, because the destruction of the forests diminishes the rainfall,—for example, the rainfall at Accra is about 45 inches per annum, and this is not sufficient to support a luxurious food-producing vegetation in a tropical district subjected to a long dry season and the intensely drying action of the wind from the Sahara, and if the destruction of the forests is allowed to go on at its present rate for a few more years, we shall find ourselves facing famine in West Africa. The South-West Coast, which commences at Cameroon, is under different climatic conditions. Cameroons, with its volcanic island series of Fernando Po, San Thomé, and Principe, has an infinitely richer soil and heavy and evenly-distributed rainfall; below Cameroons you are in the region of double seasons, two wet and two dry, until you reach Congo; and in this double-season region the growth of vegetation is so rapid that the native has to fight back the forest as a Dutchman fights the sea, and

moreover the mass of the South-West Coast natives are not so much dependent on plantations as those of the West Coast, for they are nomadic hunters. I see you notice the German efforts to improve the producing power of Cameroons, and I should like to add that the French Government in Congo Française are equally active, and among other things have encouraged the planting of the para-rubber tree, which flourishes exceedingly.—I am, Sir, &c., M. H. Kingsley.

100 Addison Road, Kensington, W.

—*Spectator*, Dec. 12.

## THE WEST INDIA SUGAR INDUSTRY.

We are officially informed that General Sir Henry Wylie Norman, Sir Edward Grey, and Sir David Barbour have been appointed to be Commissioners "to inquire into the conditions and prospects of the West India sugar-growing Islands"—not, be it observed, solely into the conditions and prospects of the cane sugar industry. The wording of this communication is not quite clear. British Guiana, which is the seat of a larger sugar industry than any of our possessions in the Western Tropics, is not one of the West India Islands, though a Secretary of State at one time thought that it was, and thus described it in a Despatch. It is contrary to common sense to suppose that this Colony is to be excluded from the scope of the investigations of the Commission, for it is the best, if not the last, stronghold of the West Indian planter. Nor is it inquiry, we apprehend, to be limited to the "West India sugar-growing Islands," for, with the conspicuous exceptions of Trinidad, Barbados, Jamaica, and one or two others there are several islands where the cultivation of sugar for export has practically ceased. What we understand the Colonial Office to mean is that the Commission is to inquire into the economic conditions and prospects of all the West India Colonies, whether island or mainland, and whether sugar cultivators still fight for life or have given up the struggle. It is admirably constituted for its task. If we were asked to describe it negatively, we should say that it is decidedly not a planter's Commission. If its composition is analysed, it will be seen that there is little hope for the belief that was entertained in some quarters that the Commission would be more favourably disposed towards the planters than to any other class of West Indian producer. It is a thoroughly impartial body. General Sir Henry Norman was Governor of Jamaica from 1883 until he was sent to Queensland in 1889. In other words, he was at the head of an important West Indian Colony during years of crisis in the sugar industry, when Jamaica was compelled to seek other outlets for productive energy than in the cane fields. Thanks in some measure to him, though more to necessity—the fruitful mother of new enterprises, Jamaica has succeeded fairly well in keeping out of bankruptcy. Sir Edward Grey has no West Indian experience that we can recall, but he is an able man, with much business faculty, and will doubtless find the Islands a pleasant place for a Winter holiday. Sir Edward Barbour is a distinguished Indian Treasury official, who lately served on the Commission on the Financial Relations between Great Britain and Ireland. We shall be surprised if he does not discover that the West India Colonies are wastefully governed and that drastic economies can be effected and inequalities of taxation redressed. With the coolie question Sir David Barbour, of course, will be particularly fitted to deal. We note that the Commission is to have the expert help of Mr. Daniel Morris, the Assistant Director of the Royal Gardens at Kew. Mr. Morris graduated as a botanist in the West Indies, and there is not, perhaps, another man available who possesses his wide knowledge of the commercial uses to which the vegetable wealth of these Colonies might be put, were capital and energy forthcoming. It is evident from the constitution of the Commission that what the Colonial Office has in mind is a general and all round development of these neglected Colonies, many of which are, for the most part, beautiful primeval wilds. If it can also incidentally assist the sugar planters to continue to hold their own, it will be a useful service. —*Standard*, Dec. 19.

## RUBBER PLANTS AND THE CYCLE TRADE.

At the meeting of the Royal Botanic Society at Regent's Park on Saturday three new Fellows were elected—Mr. H. S. Clutton, Mrs. W. Hern, and Mrs. Twiney. An interesting collection of indiarubber-producing plants grown in the gardens was shown by the secretary, Mr. Sowerby. There are about a dozen varieties of the plant from which rubber is produced for commercial purposes, and special importance is given to the subject by the large consumption of rubber for cycle tyres, which has caused the price to increase something like 2s. a pound within the last few years. The price would have gone still higher but for the discovery in Central Africa of several species of *landolphia* a climbing rubber plant which is likely to provide the great reserve supply for future use. Several specimens of *landolphia* were shown. Other kinds exhibited were the *castilloa elastica* (Central America), and the *manihot glaziovi* (Brazil). A large proportion of the supply of rubber at present comes from America, but American cultivators are said to be very reckless in their methods, destroying large numbers of plants for a greater immediate return. Although rubber was used by the natives of San Domingo for making balls and for waterproof shoes even in the time of Columbus, it was looked upon merely as a curiosity, and had no commercial use until 1792, when Dr. Priestley noticed its value in rubbing out pencil marks. It was brought at the time from the East and West Indies, and from the purpose to which it was applied became known as "indiarubber." In 1843 its usefulness was greatly increased by the discovery that it would absorb sulphur, and by this process, described as "vulcanising," became capable of withstanding high temperatures.—*Daily Chronicle*, Dec. 14.

## TEA IN AMERICA.

New York, Nov. 25.

Demand is not as quick as in October, but prices are well sustained for all descriptions. There is no evidence that the lower grades are not holding their advance. Greens are firmly held. Japan steady. Fine Formosa strong.

Today at noon the Montgomery Auction and Commission Company will sell 4,010 packages, viz: 1,159 packages Moyune, including chops new season's; 1,679 boxes Pingsuoy, new season's; 98 half-chests Japan Nibs; 9 half-chests Dust; 551 half-chests and boxes Congou, including fancy new season's; 159 packages India, Java and Ceylon, an attractive assortment; 278 Foochow, the celebrated "Tong Shing" Third; 79 half-chests and boxes Formosa.—*American Grocer.*

## MANURING BY CEYLON PLANTERS AND OTHERS: THE NEED OF A FERTILISERS' ACT.

The time has not yet come for summing up the valuable information contained in the several letters sent us in reply to the circular on the Manuring of Tea Plantations. Indeed only a fraction of the responses have, as yet, seen the light. In the last budget published—including two letters from Northern Districts, one from Dimbula and one from Maskeliya,—there was given not only practical information of the utmost importance to all engaged in tea cultivation; but a question was raised, not for the first time, to which attention should at once be drawn. From the Correspondence we refer to, it is becoming evident that planters are awaking to the necessity of Guaranteed Purity in Manures. More than one of our correspondents makes pointed reference to this, and the examples which both "Hantane" and "D" have adduced, show how buying in the dark is about as unsatisfactory as the proverbial purchase of "a pig in a poke." Things according to their showing have been improving in some directions, and falling away in others, but even where the improvement is most marked, the need for still further care is manifest enough. Fifteen to twenty per cent of sand in "fish-manure" is a very large proportion, and when it is remembered that this useless stuff may have to be conveyed to distant estates, and all the expense of applying it gone through, while the planter is wholly unaware of the value, it is about time that something were done to let in light. In the mother country, there is a "Fertilisers and Feeding Stuffs Act" which has done very much to protect buyers of artificial manures, and it would seem, as if now that the question of manuring is locally so much in evidence, and the need to avail ourselves of every advantage in connection with our principal product is so keenly realized, that some such Ordinance should find a place in the Statute-book of Ceylon. What is wanted is a warranty of sale. "Every person," says the English Act "who sells for use as fertiliser of the soil, any article manufactured in the United Kingdom, or imported from abroad, shall give to the purchaser an invoice stating the name of the article and whether it is an artificially compounded article or not, and what is at least the percentage of the nitrogen, soluble and insoluble phosphates, and potash, if any, contained in the article, and this invoice shall have effect as a warranty by the seller, of the statement contained therein." If the fertiliser is not up to the standard guaranteed, there are penalties, which, of course, are only intended for the fraudulent. Before the Act came in force the trade in artificial manures in the United Kingdom had become very degenerate; but now things are completely changed and the Act is a hardship to no one, as the seller knows what he sells, and the buyer what he buys. Merchants here can easily protect themselves, through local analytical talent, and a Fertilisers' Act would be a boon to all concerned—to the dealers and importers as saving all disputes and dissatisfaction on the part of their customers; and to the planters as showing them precisely, the value of the fertilising constituents, they were applying to their tea. We do not think His Excellency the Governor would have the slightest objection to the passing of such an Act.

## THE TEA ESTIMATES.

A proprietor writes:—

"V. A. surely meant 15 millions over last year's estimate, not 15 millions over actual shipments. District estimates for 1897 are compared with 1896 estimates, not with the actual output.

"Something should be done to make the Customs and Chamber of Commerce returns correspond. At present it is very much a case of you don't know where you are."

That would mean 116, in place of 120-122 millions lb. for 1897; but surely, in the case of the districts, the comparison will be between actual results for 1896, and the estimate for 1897. Why should a Committee with the actual results available, go back to an estimate framed nearly a year ago? We agree that it would be an advantage and great convenience to have the Export figures of the Customs Department and Chamber of Commerce made upon the same basis, if that were possible, and so to agree.

## COFFEE PLANTING IN NORTH BORNEO.

From the letter of a reliable correspondent this Dependency, we quote as follows:—

"Coffee is certainly looking up in B. N. Borneo Large clearings are being opened in Maundu Bay, and felling has just begun. Labour is very plentiful just at present. Could you not induce a few more Ceylon planters to come over? There are only two planters here. I am sure either Mr. Henry Walker or myself would be most happy to give all information about the country and coffee."

Here is a chance for young gentlemen commanding a certain amount of capital and who, after learning all about "planting" in Ceylon, find the openings for moderate capital and experience, are locally few and far between.

## MANURING TEA AND THE LABOUR SUPPLY.

An experienced planter in sending in his answer to our circular says:—"I cannot help thinking were all owners of tea estates on old coffee lands to go in for manuring systematically we should find we had not done half enough in pushing our teas into new markets. That the extra production, the result of manuring with the increasing area coming into bearing, would prove too great for the demand, provided we had the coolies to apply the manure and harvest the result."

## THE CEYLON TEA OUTPUT: A HARD CASE?

The editor of the "Times of Ceylon" thinks we have dealt hardly with him—indeed that our censure is for his not suppressing the truth!—and further that Mr. James Ryan put forward the "fact" on which his remarks were based and that we did not attempt to justify our own position. Well, let us compare the "Times" of the 6th Jan. with that of the 4th Jan.:—

"Ceylon Times," Jan. 6th.

We recently called attention to the fact, newly revealed by the figures published by Mr. James Ryan, the Hon. Secretary of the Dimbula Planters' Association, that some of the larger upcountry districts having all their large acreage already planted up, in tea, had nearly reached the limit of production.

"Ceylon Times," Jan. 4th.

Other things being equal, Dimbula has nearly reached the limit of its production. And the same remark holds good of several other districts, such as those we have named [Dikoya, Maskeliya] and

*many others besides.* Extension now is nearly confined to the low country and Uva, and the total amount is not, we think, increasing, but decreasing yearly."

There is a good deal more than Mr. Ryan's "fact" here, especially in the words we have italicized.

In justifying our censure we need only quote two sentences from our article:—

"Let it be granted that the available reserves in certain of our districts are nearly all planted, what about *manuring?* Not one word of reference does our contemporary make to a departure which is now every year more followed in Ceylon and which, of itself, with the results before us, ought to render Indian Tea Company Directors and other planters of tea, more and more careful how they rush on large new clearings without any proper consideration of how the over-production already threatened, is to be cleared off."

What our contemporary means by the "total amount decreasing" it is hard to say—surely not that Ceylon is to give a lower tea export in 1897-8 or 9 than in 1896 and yet where is the "truth"!

## THE CEYLON TEA OUTPUT—AND MANURING.

With reference to our evening contemporary's statement that besides Dimbula, Dikoya and Maskeliya, "*many other districts*" had nearly reached the limit of their production, an experienced planter very pertinently asks:—"Is not manuring equal to opening up new land, thereby increasing the output of tea?"—and in illustration we are told of a case where castor-cake and bones doubled the yield nine months after application and this on land that had been in continuous cultivation for forty years with coffee, cinchona and tea. "If any bulky manure has been applied to this estate, it would only have been in small quantities, such as a little stable manure or from a few milch cows and scarcely worth alluding to."

We may well ask whether it was consistent with "telling the truth," to say nothing about what "manuring" is doing and is likely to do for the "many districts" that have no more land to plant.

We are, however, more and more struck with the agreement in opinion among planters, that unless the Labour Supply is reinforced, it will be impossible to keep up or extend manuring, to do justice in plucking leaf, or in cultivation, and even to ensure due care in preparation of the tea.

## TOBACCO PRODUCTION AND CIGAR-MAKING IN CEYLON.

At a time when tea production, if not planting, is supposed to be overdone and when we are receiving such discouraging news of cacao (as comes today from one district "most distressing how old cacao is dying"),—it is almost refreshing to receive such a paper from a Tobacco Expert as we publish below. He alleges that tobacco, even in Ceylon, should be made to pay better than tea and that a fair trial has never been given to this product,—that there is a great market at our very doors and that Ceylon cigars should beat those of India and North Borneo; while never before was there such a chance for profitable investment with Cuba and the Philippines in trouble.

Now how is it that only an Indian Expert knows all this? And why does he reveal the secret to provoke competition, and not rather make hay in his own gardens while the sun shines? Ceylon planters are supposed to be pretty sharp and yet some of the shrewdest of them, of late years even, have tried tobacco and burnt their fingers. Let "Expert" raise the capital in India and come and show us "how to do it" with tobacco in Ceylon.

Our Expert friend sent us a previous paper on the same subject which can be referred to at page 378 (December's) *Tropical Agriculturist.*

## THE CIGAR TRADE AND CEYLON TOBACCO.

### No. II.

(*Communicated by an Expert.*)

When comparing the success that Borneo tobacco and Borneo cigars have obtained at home with the efforts of this Island in this direction, the comparison is indeed an unsatisfactory one, the reason is not far to seek. Every up-to-date Tobacconist at home stocks Borneo cigars while a Ceylon cigar is not in it and never has been.

The general excellence of Borneo leaf coupled with the enterprising manner in which this leaf has been forced upon the public notice, has done everything to make a Borneo cigar a popular one and the demand for the same a great one.

To flood the markets at home with any hope of permanent success requires a good thing to begin with. Borneo has this in its tobacco; the rest is mere push and enterprise. To be able to put a first-class cigar upon the markets to retail at 2d and 3d each, means an enormous demand. About nine-tenths of the cigars consumed at home are those that sell at 3d each and under, mostly under and this is the class of trade to cater for.

So far Ceylon has not had a chance to look in. The experiments that have been made have proved beyond question, that a very fine and high class leaf is produceable in the Island and the fact that these experiments were not continued or enlarged upon is certainly not due to any failure to produce a requisite leaf. There is nothing that pays like "Baccy"—not even "tea"—given a fair start and fair conditions.

The Havanna trade, owing to the Cuban insurrection is in a state of collapse and now is the time for Ceylon to make a fresh start. Dealers at home are being forced to look about for new fields to fill up the gap made by the failure of the Havanna trade. Anything in the shape of a good and pure cigar that is placed before the public, is bound to do well always provided that it is well and sufficiently forced upon the markets. The Havanna trade is not at all likely to recover itself for a year or two yet, even supposing that the Cuban troubles are now coming to an end and this is by no means the case.

Borneo Cigars are now being pushed at an opportune moment and Indian manufacturers have also awakened to the situation and are doing all they know to take advantage of it.

India would have no chance against Ceylon, were Ceylon to properly contest the trade. Indian tobacco is not and never can be any thing equal to that produced by Ceylon; the climate and soil are against this.

What Ceylon should do, is not only to produce leaf, but also to manufacture it and export only

after selection, such leaf that it does not itself require for manufacturing purposes. India would prove a good market for any excess of leaf, manufacturers are constantly looking out for new stuff for blending purposes.

In this way Ceylon would secure for itself only the choicest leaf and therefore Ceylon should be of the very best, while the profit upon the same would be uncommonly satisfactory. The cost of production would be infinitely less than that of Borneo leaf, while the cost of manufacture infinitely less than that of the home-made cigar.

Ceylon imports from India something like 20 lacs of cigars annually upon which import duty is paid.

A good cigar made in the island would as a natural consequence divert the most, if not the whole, of this trade, if only the question of duty were taken into consideration.

All that is necessary to ensure success is a thorough knowledge of growing and of manufacturing, coupled with businesslike management and the requisite capital.

An opportunity such as at present offers itself to develop this trade is never likely to occur again and should not be lost sight of.

I am firmly convinced that tobacco in Ceylon could be made to develop into a great success with the necessary enterprise.

## OUR STAPLE EXPORTS FOR 1896.

## THE CREAM OF THE FIGURES.

The principal totals of the Chamber of Commerce tables with the export results for 1896 are as follows :—

| | 1896 | 1895 | Increase or decrease. | |
|---|---|---|---|---|
| TEA lb. | 108,141,412 | 97,939,871 | 10,201,541 | inc. |
| COFFEE cwt. | 22,747 | 63,920 | 41,173 | dec. |
| COCOA cwt. | 31,366 | 27,420 | 3,946 | inc. |
| CINCHONA lb. | 1,309,560 | 921,085 | 388,475 | inc. |
| CARDAMOMS lb. | 452,595 | 374,635 | 77,960 | inc. |
| COCONUT OIL cwt. | 343,497 | 384,140 | 40,343 | dec. |
| PLUMBAGO cwt. | 340,491 | 334,921 | 5,571 | inc. |

As to the distribution of our great staple, *tea*, we have the following main facts :—

| | In 1896. lb. | 1895. lb. | Increase. lb. |
|---|---|---|---|
| United Kingdom ... | 93,936,361 | 85,753,339 | 8,183,022 |
| Australasia ... | 11,062,832 | 9,379,561 | 1,683,271 |
| America ... | 718,600 | 393,527 | 325,073 |
| Rest of World... | 2,423,619 | 2,413,444 | 10,175 |

The great increase has been to the United Kingdom ; but nearly 1¾ million lb. additional to the Australasian Colonies is very good, and also the 325,000 lb. of increase to America, although, of course, a good deal re-exported from London should be added to these figures.

## THE TRADE OF CEYLON IN 1896.

Having noticed, above, a very few of the principal figures and comparisons afforded by the staple exports of the island during 1896, we are now enabled through the courtesy of a mercantile authority to give our readers the benefit of a Review of the Import and Export Trade in its main features for the past year. The increase in the import of coal and in the export of "desiccated coconut" are among noteworthy experiences :—

### IMPORTS.

RICE.—During the first six months of the year, prices were moderate and steady but about September they advanced and, continued to do so, as the prospects of the monsoon rains in Northern India became less favourable. Soolye rice is now about R2 per bag dearer than it was in January last; but as the much needed rains have fallen in many parts of India, the famine, which otherwise must have supervened, has been to some extent averted. Imports of all kinds in 1896 have been 5,917,096 bushels against 8,722,822 in 1895.

COTTON GOODS.—Business was overdone in 1895 but in 1896, the imports were on a smaller scale, being about 2,000 packages less than were imported in 1895. During the past few months the purchasing powers of dealers have been much curtailed owing to the limiting by the banks of the facilities hitherto afforded, for the discount of promissory notes.

METALS AND HARDWARE.—A good and extensive business has been done in tea requisites, and metals and hardware generally, but there is still a large proportion imported from continental countries. It is hoped that English manufacturers when they see the samples of continental made goods that are being exhibited by the London Chamber of Commerce will awake to the necessity of meeting more fully, the wants of their customers by trying to provide what a consumer wants, and not only what a manufacturer prefers to make.

The high rates of exchange that have been ruling for some time have stimulated import business generally, owing to the lower rupee cost for which goods could be laid down.

From 1st January 1897 the old method of entering goods at the Customhouse for duty is being discontinued, and in future, sterling invoices will be taken at the exchange ruling, which will be fixed from time to time. A Select-Committee of the Legislative Council has been appointed to consider and report upon the question of *ad valorem* and rated articles for duty and also the kerosine oil duty, which is considered to be far too high.

COAL.—The imports of coal in 1896 were 340,750 tons against in 1895 326,297 tons.

Indian coal is now being more largely used than formerly, the quality having considerably improved.

### EXPORTS.

TEA.—The total quantities exported in the last two years have been :—

| | 1896. lb. | 1895. lb. |
|---|---|---|
| To United Kingdom | 93,936,361 | 85,753,339 |
| Continent | 617,345 | 786,741 |
| Australia | 11,062,832 | 9,379,561 |
| America | 718,600 | 393,527 |
| India | 924,272 | 831,070 |
| Other Countries | 882,002 | 795,633 |
| | 108,141,412 | 97,939,871 lb |

During the first half of the year, the weather was favourable and the yield on most estates was good, but during the latter half there was a super-abundance of rain which, in most districts, has kept back flush.

Shipments to Australia show a marked increase, whilst those to the United States and Canada are growing steadily. The Russian markets should now be more vigorously exploited and every encouragement should be given to those who are striving to introduce Ceylon Tea into these markets. The area under cultivation in

the island is being slowly increased, and production in 1897 will show up larger than in 1896, but there is no large expansion of planting, nor can there be, especially in the higher districts. [Although the effect of extended manuring must not be overlooked.—ED. *T.A.*]

The higher exchange now prevailing is curtailing producer's profits by about 1d. per lb. and if it continues, either the sterling price of tea must go up, or, the value of tea estates must come down.

COFFEE.—The past year has been an unfavourable one, only 22,747 cwts. having been exported as compared with 63,920 cwts. in 1895. With the good prices obtainable, it is surprising that more Liberian is not planted.

COCOA.—The crop of last year has been on the whole a good one, 31,366 cwts. having been sent away, and prices have lately shown signs of recovery.

CINNAMON.—Shipments have been on more than average scale, and as the value has continued to rule high in Europe, the stocks there being light, rupee prices here have been maintained at a high level.

The heavy rains of the past few months ought to have stimulated growth, and the cuttings the first half of 1897 ought to be large.

COCONUT OIL.—This article has been very depressed in the markets of Europe and America during the past year owing to the abundance and cheapness of other greases, chiefly tallow, which has been in large supply from South America and Australia.

A strong demand, however, has prevailed for Indian, and ports farther East, partly owing to scarcity of Cochin oil. The total quantity exported in 1896 was 339,870 cwt., against 384,150 cwt. in 1895.

COPRA.—A lively demand for this has been experienced, and, besides the usual export to Indian ports, a considerable quantity has been sent this year to Antwerp and Hamburg, where copra oil is made.

PLUMBAGO.—The exports have been on an average scale, and the quantities taken for Continental ports and for America have been about the same as in 1895. The total quantity sent away was 340,470 cwt., against 334,921 in 1895. Fine qualities have been scarce and in demand and low qualities plentiful and neglected as usual.

In the latter half of the year, the enquiry for America has been slack owing to the Presidential election interfering with trade.

FIBRES.—There has been a poor business in in these during 1896 and a considerable falling-off in the quantities exported, chiefly owing to first cost having been forced so high. These remarks apply to coir, kitul and palmyra.

DESICCATED COCONUT.—The trade in this article has increased by 2,052,525 lb. as compared with 1895, the figures being:—

| 1896. | 1895. |
|---|---|
| 10,603,598 lb. | 8,551,073 lb. |

the great bulk going to the United Kingdom.

## MARIAWATTE TEA PLANTATION.

We learn through the courtesy of the Chief Manager of the Ceylon Tea Plantations Co. that the whole estate of 467 acres has given 410.436 lb. tea, or 878 lb. per acre in 1896, against 870 lb. per acre in 1895. We are promised an exact return for the old 100-acre field, which cannot fail to be interesting.

## TEA IN JAPAN: OUR JAPANESE VISITOR.

DR. OBAYASHI has returned from his trip to the Central Province, charmed with Kandy, astonished at the extent and variety of the Royal Botanic Gardens, very much impressed by the tea districts he saw, and by the machinery in the New Peradeniya and Scrubs factories, and with the feeling that Nuwara Eliya is "too cold." He now returns to Japan and will probably recommend some machinery being imported, although he says it is not so suitable in the preparation of Japanese green teas. The "facing" of Japan teas, our visitor says, is done in the godowns at the shipping port, and this "facing," as we have often mentioned, is of Prussian blue and other deleterious matter. Latterly, however, American dealers—according to Dr. Obayashi—have been objecting to the facing. Our visitor is greatly impressed with the fertility and resources of Ceylon and thinks (despite our deprecation and attempted correction) that our future crops of tea must very largely increase—indeed to a figure which we pointed out to be impossible; but in vain! How far this impression may affect the extension of tea growing in Japan or still more in Formosa, we cannot say. But our visitor is certainly anxious to introduce improved tea factory buildings and machinery into his native land.

## VARIOUS PLANTING NOTES.

"CHOCHO."—It is wonderful how the merits of the West Indian vegetable introduced to the East for the first time, we believe, by Mr. Nock, of our Hakgalla gardens, get spread after a roundabout fashion. A London daily newspaper has the following editorial note upon it:—

It is of interest to note that as a result of the work done at the Nundy Coog Nursery, the Chocho, Christophine, or vegetable pear introduced from the West Indies is now being cultivated by the natives in serveral villages in Mysore, and is becoming quite a popular vegetable both in the vilages and in some of the towns. It is largely used in the gaol at Bangalore, where it is carefully grown, and it is considered one of the most useful and wholesome of foods for the prisoners. The large fleshy part of the root sometimes weighs nearly twenty pounds, and is very good when cooked and eaten like a yam, a fact which is not generally known. It is, we belive, now being grown under glass in this country, and does well under similar conditions to tomatoes and grapes or cucumbers, and the large flat single seeds, carefully cooked, are considered a great delicacy.

COFFEE IN THE FAR WEST.—There is no end to the coffee investments of Ceylon planters in America: we call attention to the cheering report given on page 541 of the Dumont-Brazil Company; and now we learn from Mr. Maitland-Kirwan that he is interested in no less than 10,000 acres of land in Independent Honduras, taken up mainly for coffee, of which 200 acres are planted and in bearing. The estate is within 20 miles of the sea with a river for boat transport; but the supply of labour is uncertain. We shall have more to say on the subject. Meantime Mr. W. J. Forsyth, formerly of Maturata, sends us a Mexican paper with correspondence and reports showing that a fungoid disease (*Stilbum Flavidum*, Cooke) already known in Jamaica and elsewhere, has appeared in one division in Mexico. We shall give the whole Correspondence as also extracts from the pamphlet on Coffee in Honduras.

## MARIAWATTE OLD 100-ACRE TEA FIELD STILL GIVING NEARLY 1,100 LB. PER ACRE.

We are indebted to Mr. Salmond, the Manager of Mariawatte, for the following extremely satisfactory return :—

"Mariawatte Estate Tea Crop return for 1896.--Total acreage 467 acres; total yield 410,436 lb., being 878 lb. per acre all round; of which the original 100 acre field has contributed 1,090 lb. per acre."

This 100-acre field is now 18 years old and that it should still give nearly 13 maunds of made tea per acre is, we fancy, unique in the history of tea cultivation. From our "Handbook and Directory" we quote the past record of Mariawatte :—

" Mariawatte Estate original 104 acres planted 1879. —Yields: 1884, 1,050 lb. per acre; 1885, over 1,133 lb. per acre; 1886, 1,018 lb. per acre; 1887, 1,115 lb. per acre. The acreage of young and old tea plucked over in 1887 was 307 acres and the total yield was 184,695 lb. or 600 lb. per acre, and when it is considered 147 acres of this was only 3-year old tea, the yield may certainly be called magnificent—Mariawatte yield for 1889 over 424 acres was 625 lb. per acre; the original hundred acres gave in 1889 1,094 lb per acre; in 1888 the yield from this field was 1,023 lb. per acre; in 1890 the crop was 321,167 lb. or 757 lb. per acre in bearing, the old 104 acres giving 140,144 lb. or 1347 lb. acre—no manure for two years. In 1891, the yield was over 120,362 lb. or 1,114 lb. per acre; For 1892, it was 417,80) lb. for the estate--the old 100-acre field giving 1,114 lb. This was planted in 1879 and from 1884 has given over 1,000 lb. an acre, the highest return being 1,347 lb. in 1890. The average for nine years is 1,130 lb. For 1893, 1894 and 1895 we may say that the yield of the old Tea is still keeping up to over 1,100 lb. per acre and has every appearance of continuing its large yield, owing to the systematic application of bulky manure, say over 20 tons per acre one-third of estate being so manured every year."

## THE "FORESTS" AND THE "NINETIES."

### IS HISTORY REPEATING ITSELF IN CEYLON PLANTING ?

The gentleman who wrote the first Essay on Coffee Planting in Ceylon early in the "forties"—a planter and afterwards a merchant (member of a firm still in existence), writes to us from England, under date Dec 23rd :—

" Tea Companies are starting weekly and as each Company comprises three or four properties, very soon 75 per cent. of your tea gardens will be in the hands of Companies, a rather prominent indication of the drift of proprietary public opinion, though in any case the enormous sums paid are inducements which few can allow to pass by. We have had all this in Ceylon before, except that individuals not Companies were the buyers and for tea we had coffee."

## THE RAGALLA TEA ESTATE, LIMITED.

### DIRECTORS' REPORT.

Report of the Directors to be submitted to the shareholders at the ordinary general meeting, to be held at 39, Lime Street, E.C., on Tuesday, 29th December 1896, at 1 p.m.

The directors beg to submit their report, and also statement of accounts duly audited for the year ending 31st July last, on which date the balance at credit of profit and loss account, including £840 15s 5d brought forward, stood at £2,035 5s 2d. Against this an interim dividend of 8s per share was paid on 1st July last, and it is proposed to pay, on 1st January next, to shareholders on the Register at this date a further dividend of 4s per share, free of income tax, in respect of the 3,100 shares fully paid as at 31st July last, making altogether six per cent for the year.

During the year the crops realized in London were :—

Tea, 188,535 lb., at a gross average of 10.42 per lb.
Coffee, 373.0·20 cwt. do 92s 9d per cwt.

The following are the acreages now in tea on Ragalla and Halgran Oya estates :—

| In bearing. | Partial bearing. | Young Tea. | Total. |
|---|---|---|---|
| Acres. | Acres. | Acres. | Acres. |
| 623 | 193 | 117 | 933 |

The total acreages being as follow:—

| | Ragalla. | Halgran Oya. | Total. |
|---|---|---|---|
| | Acres. | Acres. | Acres. |
| Tea .. | 722 | 94 | 933 |
| Tea and Coffee .. | — | 117 | |
| Timber .. | 73 | — | 73 |
| Patna, &c. .. | 204 | 181 | 385 |
| Totals .. | 999 | 392 | 1391 |

During the season under review, the directors authorised further expenditure on capital account to the extent of £2,070 5s 4d, as shewn in the accounts, this sum being spent on machinery, buildings, roads and drains, nurseries, and general improvements. A new down draft sirocco drying machine was purchased, together with the necessary appliances. Considerable additions were made to the coolie lines, thirty-six new rooms having been built ; new caddies were also built and the old ones and approaches put in order. The item of roads and drains includes the cost of draining 482 acres, this important work being practically finished on the estates, only about 30 acres remaining to be done. The purchase of tea seed amounted to 50 maunds, the cost of this being charged to nurseries account.

As already advised to shareholders, a further issue of 800 ordinary shares of £10 each has been made for the purpose of erecting a new factory on Ragalla estate at a cost of about £7,000, and to provide for other improvements which it is estimated will involve an outlay of about £1,000 to £1,500.

The estimate for Ragalla and Halgran Oya estates for the year are as follows :—

| | £ |
|---|---|
| Tea Crop.—275,000 lb. at 9d per lb. nett | 10,312 |
| Coffee Crop.—200 cwt. at 90s per cwt. nett | 900 |
| | £11,212 |
| Profits on Leaf Purchase, Caddies and Manufacture .. .. | 500 |
| | £11,712 |
| *Less* Expenditure in Ceylon for upkeep ; rupees, 96,768 at exchange 1s 3d .. .. .. | 6,048 |
| Gross Profit .. .. | £5,664 |

The directors having obtained the sanction of the shareholders, also completed the purchase of the Kelburne estate, at a cost of £35,000, as from 1st July last, from which date profit on the working will accrue to the Company, and have every reason to believe that the addition of this estate to the Company's properties will prove of great value. The provision for the purchase was arranged by the issue of 7,000 cumulative 6 per cent. Preference Shares of £5 each, all of which have been taken up.

Under clause 97 of the articles Mr. M. P. Evans retires from the Board, but being eligible offers himself for re-election.

The appointment of Auditors also rests with the shareholders under the articles of Association, and Messrs. Fuller & Wise, the present Auditors, offer themselves for re-election.

C. E. STRACHAN, Chairman.

17th December 1896.

## BANANA CULTIVATION IN MADEIRA.

Two varieties of banana are generally grown in Madeira, viz., the dwarf banana and the silver banana. The dwarf banana, the *banana ana*, or Chinese banana, the botanical classification of which is *Musa Cavendishii*, of the order of *Scitamineæ*. Consul Crawford, of Funchal, says that this is the banana most preferred for the export trade, the fruit being much larger and the bunches much heavier than the silver variety of the fruit. The silver is much the more delicate in flavour, and only about one-half the size of the dwarf variety, but it is seldom exported, as the total quantity grown in the island is scarcely sufficient to supply the home consumption, but Consul Crawford says that in all probability if this variety of fruit were better known it would be in greater demand, and, although smaller in size, it has a much better appearance, being of a beautful bright golden-yellow colour without any of the dark brown spots or patches which usually disfigure the dwarf banana when ripe, whilst, as regards the flavour, it is so much more delicate that those who have once eaten the silver banana seldom use the dwarf or ordinary variety, except for cooking purposes. The dwarf banana forms by far the largest proportion of the total quantity of fruit that is exported from Madeira. The greater part of bananas are grown on the south side of the island in plantations varying from a few plants to many thousands; they thrive best on fresh land sheltered from heavy gales of wind, which are liable to uproot the plants and to damage the bunches of fruit. The artificial manure has been used with great success in their cultivation, but large quantities of offal from the slaughter-houses and the fish markets are also freely used, and this treatment is found to be most beneficial in increasing the weight of the bunches, and also of the individual size of the fruit. The season for bananas virtually lasts the whole year round, the largest export taking place during the winter months when fresh fruit is scarce in England, but the fruit is at its greatest perfection from July to December, being much more abundant, the bunches larger, and the fruit better flavoured. The banana is one of the very best fruits grown in Maderia for exportation, as the bunches can be cut whilst the fruit is green and firm, it sustains comparatively little damage in transit, and the fruit ripens by degrees according to the temperature in which it is kept. The usual method of packing is in large rough wooden crates, holding a dozen or more bunches, between each of which straw is placed to keep them firm and to prevent them rubbing one against another; another method of packing is in baskets made of a coarse native broom, one bunch only being placed in each basket, straw or bracken leaves being likewise placed round them to ensure their safety in transit.—*Journal of the Society of Arts*, Dec. 18.

## PRODUCE AND PLANTING.

(From the *H. & C. Mail*, Dec. 25.)

CHINA TEA AND INDIAN METHODS.—The fact that China tea growers and manufacturers are very anxious to acquire Indian methods of manufacture, and that one enterprising Foochow manufacturer has imported machinery, is cheering to the spirits of China tea importers, who believe that with the use of machinery the tea trade of China may be set on its legs again. But the men in possession of the market are not likely to be scared because one or two Chinese growers intend to use machinery. Even if the use of machinery should become general in China, the re-capture of the tea markets would be well-nigh impossible task for the Chinese. Indian and Ceylon teas are so popular, and the planters who grow them are determined to hold the markets against all comers. The use of machinery by the Chinese and the adoption of Indian methods will only lead to further efforts on the part of their British competitors to increase the strong hold they now have on the tea trade of the world. Competition in the production of tea, however, must be expected and provided for. Indian and Ceylon planters who are prudent have recognised the possibility of this competition becoming very keen in the future.

BRAZIL AND TEA CULTIVATION.—The success of Indian and Ceylon tea in the markets of the world has naturally occasioned a little excitement amongst those planting communities whose operations have not hitherto extended to tea. In Brazil they believe they can grow nearly everything. Tempted by the wonderful accounts received of the tea industry of India and Ceylon, and the comparative ease with which tea companies can be floated in London, capitalists and planters are turning their attention, as we stated some weeks ago, to Brazil. It is said that the soil and labour conditions are very favourable to tea cultivation, and that the three provinces of Rio de Janeiro, Minas Geraes, and Sao Paula possess first-rate tea-producing qualities.

COFFEE PLANTING IN MEXICO.—Coffee planting in Mexico is making rapid strides, and, if we except silver mining, coffee growing is the most important industry in the Republic. The sudden development of this industry is ascribable to the coincidence of the increase in the price of coffee in the United States with the decrease in the cost of labour in Mexico, consequent on the depreciation of the silver dollar, which called the attention of investors to the large profits to be made by its cultivation. There is little doubt, however, that, even without these more or less ephemeral advantages, the conditions of climate and soil in Mexico, added to the cheapness of land and labour, are sufficiently favourable to its production to enable Mexican coffee to compete profitably in foreign markets with that of almost any other country. The exports in the year 1895 amounted to 334,059 cwt. valued in the returns at £4 3s 9d per cwt. Nine-tenths of this total was exported to the United States, and the remainder was divided between Germany, France, and England.

SUGAR PLANTING AND THE ROYAL COMMISSION.—It is to be hoped that the Royal Commission to enquire into the state of the sugar industry in the West Indies will not be merely a pleasure excursion. The Special Commission will meet on December 31 at the Colonial Office, and will receive evidence from traders and others interested in the West Indian colonies between that date and January 13, when the Commissioners sail in the "Don" for British Guiana. Their itinerary subsequently will be as follows:—From Demerara to Trinidad, were cocoa as well as sugar will dealt with; from Trinidad to Grenada and St. Vincent, probably to Barbados. The Commissioners then go north to St. Lucia, Antigua and St. Kitts, possibly visiting Dominica and Montserrat. In Jamaica an extended inquiry will be made. New York is the last place on the list, and the inquiry there will be as to how West Indian trade is affected by the United States tariff and other arrangements. The tour is to last over four months. The constitution of the Commission is as follows:—General Sir Henry Wylie Norman (Chairman), Sir Edward Grey, M.P., and Sir David Barbour to be Commissioners to inquire into the condition and prospects of the West India sugar-growing islands; and Mr. Sydney Olivier, B.A., to be their secretary. Mr. Daniel Morris, D. Sc., Assistant Director of the Royal Gardens, Kew, will accompany the Commission as expert adviser in botanical and agricultural questions. Sir Henry Norman, the chairman, has been Governor of Jamaica and of Queensland, and is therefore well acquainted with both the sugar-growing industry and with the labour problems which have to be considered in connection with it. His Indian experience also is invaluable on questions of administration where native races are concerned. Sir David Barbour shares with him the great advantage of this Indian experience. Sir David is besides, by this time, thoroughly well up in Commissioner's work, having served on the Royal Commission on the Financial Relations between Great Britain and Ireland and the Currency Commission. Sir Edward Grey is an ex-Under-Secretary for Foreign Affairs, and one of the best-informed and most statesmanlike men on the Radical side of the House. In sending Mr.

Olivior as secretary to the Commission Mr. Chamberlain gives up his own privato secretary—one who before receiving thac post had been engaged at the Colonial Office in the West Indies Department. Finally, for an expert adviser on cutivation questions the Commission will have the services of Mr. Morris, from Kew Gardens.

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A VERY TRYING POSITION.—Even the ardent lovers of Free Trade will admit that the condition of most of our sugar growing colonies calls for sympathy. Although British Guiana is developing its mining industry as rapidly as circumstances admit, sugar and its by-products are understood to account for 92 per cent. of the total exports, in Barbados for 94 per cent., and in St. Kitts, St. Lucia, St. Vincent, and other smaller islands for about the same proportion. In Jamaica the sugar exports are still 60 per cent. of the whole, and even in Trinidad, where a pitch lake is a valuable asset, sugar is the largest product. The colonies do not suffer from a lessened power of production or from a falling off in demand. During the last fifteen years the annual production of cane sugar, most of it West Indian, has increased from 2,200,000 to 2,904,000, tons, and the annual consumption by the whole world has increased from 3,830,000 to 7,879,000 tons. The immediate cause of the depression of the trade in the West Indies is, of course, the increased production and the artificially sustained cheapness of beet sugar in non-British countries. The output of beet sugar has risen in the fifteen years from 1,630,000 to 4,975,000 tons. According to the evidence given before a colonial Commission in 1894, the cost of producing both the cane and the beet sugar was greater than the current price. A ton of cane sugar, it was stated, eost £14 15s 10d to produce, and fetched £13 19s 2d, while a ton of beet sugar cost £9 and fetched £8 15s. For the beet sugar producers the loss was turned into profit by bounties from their Governments, amounting in 1894 to £4,290,000. The loss to the West Indian growers might have been saved, nevertheless, if consumption had been given free play. But the bounty-giving Government are also Protectionist in tho commoner sense of the term. By protective duties on foreign sugar France helps to keep down the average annual consumption of sugar by each of her inhabitants to 28lb a head. Germany to 26lb a head, and Austria to 17lb a head, Were all the inhabitants of Europe consuming sugar, like Englishmen, at the annual rate of 73lb apiece, our West Indian growers might still make shift to live, but they are very rhard hit by a policy which checks the demand for their sugar while it bribes others to sell theirs fo r less than it costs.

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A NEW MANURE.—Mr. F. J. Lloyd, a well-known analytical chemist, has called attention to a result of the use of basic slag as a manure which has not previously received attention in this country. It appears that basic slag, in addition to its phosphate of lime, contains a good deal of free or caustic lime, which acts as a solvent to any nitrogen stored up in the soil in humus or otherwise. Thus, unlike superphosphate, which depends for its fertilising utility upon tho phosphoric acid which it contains, basic slag has its greatest effect in rendering inert nitrogen suitable for assimilation by plants. This difference may account for variations in comparative trials of superphosphate and basic slag, which have often puzzled observers by their apparent contradictions. Where there is plenty of nitrogen in a soil in a form fit for plants, superphosphate is usually more efficacious than basic slag; but if there be a deficiency of available nitrogen the converse result is likely to be shown. If this theory be proved beyond dispute it will follow that slag must be regarded as a nitrogen-exhausting manure when used freely without any nitrogenous accompaniment. A French chemist, whose remarks on the subject, received by Mr. Lloyd since he broached it recently at a meeting of the London Farmers' Club, has made some experiments to determine the question, and he states that he found that slag converted the inter nitrogen in humus (organic matter in the soil) first into ammonia and next into nitrates, in which forms it is readily assimilable by points.

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## THE CEYLON LAND AND PRODUCE COMPANY, LIMITED.

The twelfth annual general meeting of the shareholders of the Ceylon Land and Produce Company, Limited, was held at the registered office of the company, 353 and 354, Leadenhall House, 101, Leadenhall Street, London, E.C., on Tuesday December 15. The chair was occupied by James Wilson, Esq.

The Secretary having read the notice convening the meeting,

The Chairman rose and said: Gentlemen, the report of the directors, with statement of accounts for the year ending June 30 last, are presumably in your hands, and with your permission I will take them as read. With your leave I will first take you with me through the figures. One of the main features of the debtor side of the balance-sheet is the total amount of our liabilities, which you will notice works out at £52,000, constituting a reduction of £4,675 as compared with the previous year. It is worthy of notice that during the past two years we have been enabled to reduce our liabilities by £14,000. These figures speak for themselves. On the other side of the account, the capital value of our estates, &c., has been increased during the past twelve months by £3,270—being the capital expenditure incurred in the purchasing and opening of land plus the up-keep of planted area not yet in bearing. Perhaps I may here point out that the company has in bearing 1,555¾ acres of tea and 1,137 acres of cocoa and other products, or a total of 2,693 acres. This area divided into the total capital works out under £37 per acre. If, however, we take the planted area, 1,993¼ acros under tea with 1,530¾ under cocoa, &c., it will be found that the capital value will be £28 per acre, without taking into account either our unopened lands or our reserve fund. There is no doubt that at the prices presently ruling for Ceylon estates, our properties are worth considerably more than what they stand at in the company's books. At the moment the estimated produce account has been reduced to £1,350, and I have every reason to believe that this account will soon be closed at a profit of, say, £100. The other items do not call for any special comment at this time. Turning to profit and loss account the expenditure on crop is much the same as last year. Charges in London and Ceylon mark a reduction, owing principally, to a much lesser debit of exchange. Our gross revenue for the year amounts to £38,913, against £35,838 in the previous period, whilst the net profit figures at £12,125. The past year has been a record year in this respect, the previous best being 1890-91, when, before allowing for the £9,052 written off, the profit amounted to £12,121. The report of the board is so full that it leaves very little for me to add, but you will be glad to hear that our clearings aro coming on very well, having regard to the bad weather encountered when a portion of them were planted, but I think, in spite of this, they are to be a success, and our last reports from the island corroborate my view. With Strathisla I am specially pleased, and I look forward to the time when this estate will be very remunerative. At last meeting the chairman explained the then position of the litigation entered upon by the company against their late Ceylon agents. You will now see by the report that this very troublesome matter is at an end. There is no doubt but that we ought to congratulate ourselves upon the successful issue of this litigation, which has caused me an immensity of trouble and anxiety.

TEA.—The Secretary then reported that the intake of the company's own tea created a record, the figures for the crop being 691,000 lb. against an estimate of 655,000 lb. The total crop for 1894-95 was 597,000 lb. against 1893-94, 698,000 lb. The net prices realised

are as under :—1895-96, 6·80d ; exchange, 1s 2d ; rupee cents, 48½ ; 1894-95, 7·34d ; exchange, 1s 1¼d ; rupee cents, 55½ ; 1893-94, 6·77d ; exchange, 1s 2½d ; rupee cents, 46½. The total outturn of all tea, including tea made for others and that made from purchased leaf, being—1895-96, 1,286,000 lb ; 1894-95, 1,033,000 lb ; 1893-94, 950,000 lb. The yield per acre —1895-96, 446 lb ; 1894-95, 384 lb. To indicate the progress made during the current year, I may say that to November 15, 1896, the crop totalled 256,000 lb. against 229,000 lb. to same date last year.

COCOA.—The crop for 1895-96 was 2,335 cwt. comparing with an estimate of 1,905 cwt. The crop for 1894-95 was 2,840 cwt; 1893-94, 1,211 cwt. The net price realised for 1895-96 was 66s 6d (estimated); 1894-95, 52s 9d ; 1893-94, 58s 4d.

COFFEE.—The crop for 1895-96 was 865 bushels, against an estimate of 875 bushels; 1894-95, 618 bushels; 1893-94, 986 bushels. Net price: 1895-96, 75s per cwt. (estimated); 1894-95, 82s 9d per cwt.; 1393-94, 86s 10d per cwt. I conclude by placing before you the estimates for the current year. The company's own tea, 686,000lb.; total tea, 1,096,000lb.; cocoa, 2,316 cwt.; coffee, 415 bushels.

Mr. T. J. LAWRENCE congratulated the directors upon the favourable state of things as disclosed in the report, and remarked that there was certainly no need of writing the properties down, but rather that they might be written up considerably. He was very glad to see the litigation in Ceylon brought to such a successful issue, and thought that the directors deserved the thanks of the shareholders. He criticised the action of the board in making a call of 10s upon the ordinary shares; but the CHAIRMAN explained that for years many of the shareholders have given opinions that it would be better if the whole of the uncalled capital could be gradually paid up, thus making, in time, all the shares fully paid. This view had commended itself to the Board, and it was hoped that the dividend of 15 per cent. would still be continued, with a bonus added in prosperous time.

The Report and Accounts having been adopted, dividend and bonus declared, Sir Nathaniel A. Staples, Bart., re-elected a director, and Mr. James B. Laurie as auditor, the Chairman moved a cordial vote of thanks to the company's superintendents in Ceylon, of whom he spoke in the highest terms.

Mr. T. J. LAWRENCE seconded the motion, which was carried unanimously.

Mr. L. A. LEWIS proposed a hearty vote of thanks to the chairman and directors for their careful, prudent, and economical management of the company's affairs, which was seconded by Mr. W. E. Thompson Sharpe, M.P., and carried *nem con.*—*H. & C. Mail*, Dec. 25.

## THE PUBLIC SALES OF TEA.

The monotony of life with those who frequent Indian tea sales has been somewhat relieved lately by a few gentlemen lighting their cigarettes whilst the sale was proceeding. The non-smokers, of course, resenting this invasion of their old customs, and a considerable discussion has been the outcome of it. The following circular from one of the leading buying brokers has been extensively circulated in "the Lane":—

### PUBLIC SALE OF TEA
IN THE
### LONDON COMMERCIAL SALE ROOMS, MINCING LANE.

*December* 1896.

The sale of tea in public sale does not constitute a right for the public in general to bid for tea in that public sale. For public sale is simply "publicity" in contradistinction to sale of tea by private contract.

The assembly of members of the tea trade in public sale is due to the fact that those members find it convenient to meet in a given centre to compete and bid for each successive lot, and facilitate the sale of the enormous mass of tea to be sold in a quick and expeditious, and, at the same time, fair and public bid for each lot, by which the merchant may know that the best has been done for his interests.

Under the old system of private contract, still in use for re-sale of tea and also for some class of merchant's tea, it would be impossible to deal with the daily sale of 500 to 800 breaks of different teas except in public sale.

In the course of twenty years' attendance in public sales in Mincing Lane Commercial Sale Rooms, I have never known an instance of one of the general public bidding for any lots offered in public sale, and, in fact, the conditions of sale and customs of the trade render this proceeding on the part of the general public impossible.

Before anyone outside of the trade can sample any lots of tea advertised for sale in public sale, it is necessary that two brokers shall certify that that person is a fit and proper person to draw the sale, and with this certificate ceases to be of the general public and becomes a member of the tea trade, the secretary of the Tea Brokers' Association issuing on that certificate a sampling card, without which card as permit no one can draw the tea lying in the wharves and warehouses.

Supposing that one of the general public obtains a sample of tea on show at the broker's office on the morning of the sale, the stipulation of the selling broker's catalogue that he does not hold himself responsible for the correctness for any such sample on show, together with the fact that dry tea requires an admirably trained mind and a delicate palate to distinguish the value of such tea, and, if this stranger did bid, so many questions would be asked as trantamount to refusal to accept his bids, so long as unguaranteed by some well-accepted warranty from a broker of the Lane present in sale.

The contention, therefore, that the public sale of tea in a public room to which the general public is admitted to bid is untenable for, except strangers who are curious only the members of the tea trade ever come to public sale, where each seat in the public sale room is appointed in name to the several firms in the tea trade who compete daily for the lots sold in public sale. Such apportionment of seats, so as to be without dispute or disturbance of the sale (a result solely due after great contention to your humble servant) a contention that we are members of a trade, and have a business right to be undisturbed in the "peaceful carrying out of our business," and free from disturbance or annoyance, which contention was eventually admitted, and fixed seats granted and appointed.

The warrant and weight notes issued against tea sold in public sale and private sale stipulate as sold in public sale, or when sold privately as sold by private sale, and deliverable to the several parties concerned, with the stipulation of public sale or private sale respectively—that the tea was sold in market overt, either with publicity or privately, and according to the conditions of public sale, not in any case that the general public were concerned, but solely that it concerned the members of the tea trade, that the tea in question on the face of the warrant was sold with publicity in contradistinction to sale privately, and always under the conditions of market overt.

Up to the present time the possibility of any question of public sale of tea being disturbed, and annoyance sprung upon the members of the tea trade assembled in the public sale rooms by individuals of this trade who wish to contend that the public sale room is a public room and that therefore the persons coming into the public sale rooms, either members of the tea trade or otherwise, were not bound to observe the accepted customs of the public sale, room for sale of tea by public auction is absolutely futile, for the public sale room is a sale of tea to members of the tea trade only, assembled in public to buy tea in market overt by public auction in contradistinction to private sale in market overt.

It is therefore an impossible contention that a member of the tea trade, who is bound by the conditions and customs of the tea trade, that that member is also one of the general public who is not bound by the rules and customs of the tea trade when assembled together in the public saleroom, and for any member of the tea trade to smoke in the public sale room to the annoyance and discomfort and causing disturbance to be sprung upon business men assembled to peacefully carry on their business, is contravening the accepted customs that have bound such members into a trade, and up to the present never been attempted.

Such smoking in public sale room causes injury to a delicate palate, and to breathe the nauseating nicotined atmosphere injury to health of other members of the trade present in the sale room.

I therefore humbly crave redress of this great grievance, and that I may be permitted to carry on my business, as heretofore, in a peaceful manner, free from annoyance or injury to palate or health, and therefore my business.

Your humble servant's contention for non-smoking is supported by all the principal firms in the tea trade, both by firms of dealers and brokers.

And I beg that redress for this great grievance may be that a clause shall be inserted in all public sale catalogues absolutely forbidding smoking in the public sale room, and the selling broker in possession of the room must order the removal of such smoker, and any catalogue without a non-smoking clause, the sale of the tea in that catalogue to be invalid.

And failing to obtain fit and proper redress I have no other option but (with great regret) to seek for such legal redress as the law may provide.—I beg to believe me, yours faithfully, C. FRED HUNT.

(Tea Broker, 55, Eastcheap, E. C.)

—*H. and C. Mail*, Dec. 25,

## DUMONT COFFEE COMPANY.

(From the *H. & C. Mail*, Dec. 25.)

The statutory meeting of the Dumont Coffee Company, Limited, was held at Winchester House, E.C., on Tuesday morning. The chair was occupied by Mr. P. R. Buchanan.

Addressing the large number of shareholders present, the Chairman said :— As you are aware, this is a meeting called in compliance with the Companies Act, so that there is really nothing on which we have to ask your decision today. But if I may be allowed to say so, it always seems to me one of the wisest provisions of the Companies Act that the shareholders joined together in any particular undertaking should meet together as soon as possible, so as to understand one another and to know what progress is being made in the new undertaking. Therefore, I need scarcely say that we are very glad to see you here today. In the first place I have to report to you that we have a body of 570 shareholders, and, if I may be allowed to say so, we havo a very strong body of shareholders indeed, which is very gratifying to us to feel. We have had our calls most readily responded to; in fact, I may say that although tho last call was only due a week ago, practically the whole of the capital has been paid up and is in our bank. (Applause.) We have managed to carry through, under considerable difficult circumstances, the transfer of the property. I say difficult circumstances, because, as you are aware, we have had to deal with Brazil, which is a considerable way off. But we have met with every assistance on the part of the vendors, and I am very happy to be able to acknowledge here the very straightforward way in which they have dealt with this company. (Hear, hear.) I am glad to be able to acknowledge it, and I am sorry there is no representative of those gentlemen present to hear what I have to say. The profits for 1896 you may remember were guaranteed by tho vendors. The accounts for 1896 have not yet been made up, so we do not know exactly what the profits are, nor have we any claim upon the vendors for that money until the accounts are complete, but I am glad to be able to tell you that the vendors have handed us the sum of £120,000 which is at our bank at the present moment, so that these 1896 profits are absolutely secured to the company. (Applause.) We shall have the accounts and expenditures of 1896 at least in March or April. Meanwhile, it is satisfactory to know we have the principal thing — the profit—in our hands. We have applied for a Stock Exchange quotation, and all the papers have been sent in in connection with the shares. They were sent in at least a fortnight ago, and the only thing remaining in connection with the Stock Exchange settlement is the reception of a document relating to the debentures, which is necessary before we can get that settlement. We heard that the document was dispatched two weeks ago from Brazil, and we are awaiting its arrival, so that we expect to get our quotation in a very short time. With regard to the prospects of the company for the future and the 1897 crop, it is not my business to prophesy, and in all my dealings with this company I have not the slightest intention to ever assume the role of prophet. But I think it is better to deal with facts. Well, with regard to the 1897 crop, we have good reports upon it so far. The blossoming has been good, and there is every reason to suppose that it will be a favourable crop. But the directors have turned their attention as much as possible to trying to improve the prospects of the company. At the first moment we took over the direction of affairs we started to see what could be done, and as Brazil is a long way off and only two or three members of the board were acquainted with the work, it was thought it would be very much better that one of our members should go out and arrange with our representatives out there for the working of the estates in the future, and who, when he came home, could advise us to what was the best thing to do for the interests of the company.

As you are aware, Mr. Talbot, our colleague, a considerable personal sacrifice, agreed to go out and to confer with our colleagues in Brazil as to what were the best steps to be taken for the future working of the property. Mr. Talbot, I am glad to say, is here today, and he will tell you himself his experience out there, so it is not necessary for me to dwell on that. So far as we have been able, we have carried out the recommendations made by him. We entirely agree with them, and we have every reason to believe that these recommendations will tend greatly to the benefit and prosperity of the company. You are all aware that the Brazilian methods of curing coffee have been of a somewhat crude description. There is great variation of prices between the Braziling coffee and Eastern coffee, and even Costa Rica coffee. We are of opinion, and the opinion is shared by those in Brazil, that great improvement could be made in the curing and preparation of the coffee for the markets, and we are taking steps to have these methods, which have proved so successful in other parts of the world, introduced into the works of this company with regard to the curing of coffee. We believe that there is a very large margin of profit between the method hitherto carried on in the Dumont and what we shall be able to bring about gradually We hope to do a good deal this year, but it is a very large thing, and we cannot do everything at once. However, we have made a good beginning, and are going energetically to work to improve the crop as much as we can. As you are aware, the Dumont Company have to deal with an unusually large crop. I have been assured that the crop we have to handle is about one-tenth of the whole coffee crop which Ceylon produced in its palmiest days; so that gives one an idea of what a big thing it is to handle. There is no doubt in my mind, and in the minds of those who have seen the property and have seen the coffee, that there is a great deal to be done to improve it; and, of course, the more we improve it the better the price and the better it is for the shareholders. Of course, gentlemen must remember that we have to deal with

a crop which, like all agricultural products, we cannot depend upon being always good. We have our good seasons and our bad seasons, and our good prices and our bad prices; there is no question about that, and, consequently, it is pleasant to think that we are in a stronger position, so far as we can judge, than any other undertaking of the kind. We have undoubtedly a magnificent property; there is no doubt of that. In the next place, only 60 per cent of our crop area has yielded a crop at present; therefore we have 40 per cent at least to come, and that places us in a very strong position. Again, we have the great possibilities in the improvement that I have mentioned, which we hope to be able to bring about in the curing of the crop. If we take these things into consideration, we shall see that we are in as strong a position as a company of this kind can possibly be. At the same time, it will be our endeavour still further to strengthen the position of the company by endeavouring to build up as strong a reserve as we can. (Applause.) That will be our policy, and I think you will admit that it is a right and proper one. We have a reserve, as I say, in our plant, we have a reserve in possible improvements, and we shall try to get a good cash reserve, which is the best of all. (Applause.)

The only other point I have to deal with is just to say what we propose to do with the Profits we have now in hand. The directors, after consideration, have agreed that, besides paying the interest on the debentures, which is due on the 31st inst., they will also pay at the same time a dividend at the rate of 7½ per cent. per annum on the preference shares; and they will also pay at the same time a dividend of 10 per cent. upon the ordinary shares. These moneys will be sent out on December 31 next, and will, I hope, be a pleasing commencement of the new year—a year which I sincerely hope will be a prosperous and satisfactory one to us all. That is all I have to report. Perhaps it would be as well for me to say one or two words more; in fact, I have been asked to do so, although it does not come exactly under the head reporting progress. It is on account of this fact, that our company is an exceptional one in this way—that it is the first of the kind that has ever been introduced to the British public, and, consequently, everyone is more or less interested in it. We are all specially interested in it because of the circumstance—I wish to emphasise that fact, although it was stated pretty clearly in our prospectus—that the most thorough investigation that could be given was given to this undertaking before we ventured to bring it before the public. We are satisfied that it is really a good property, and that the statements given were, so far as we can gather, absolutely correct, and we had no hesitation in bringing this company before the public as a good, and sound, and safe one for an investment of this sort. That was our opinion then, and it is our opinion now. We were aware then, as now, that there were a certain number of people who distrusted South American affairs and concerns altogether. Well, I do not know what to say to that. South America is rather a big place, and there are good things and bad things in it, I have no doubt; but as for making any general remark that all South American things must be bad, that does not seem me to a very wise thing. We believe, at all events, that there are good and bad things there as in London. Of this particular undertaking we believe it to be a thoroughly good and sound investment, and that it will be a most satisfactory one to the shareholders. But it can't help being situated in Brazil; for if it had not been there we should not have been here today. Certain people would prefer that it should be on Primrose-hill or in Hyde-park, and think if it would be safer. And so, perhaps, it would; but, so far as I can judge, I have very little reason to doubt that our position in Brazil is as strong and secure as if this property were situated in the United States, on the continent of Europe, or, as a matter of fact, in British India. We can only deal with history in trying to form our judgment, and the Brazilian Government have never evaded their engagements, but have acted up to them. They hold out to foreigners that freedom of interest which England holds out. They make no difference between foreigners and ther own people in the holding of lands and the titles of land and so on. They have behaved in a most liberal manner to British enterprises in the past, and we can only judge people by their record. Their record is good, and I have no hesitation in saying I have the most absolute confidence in the way we shall be treated by the Brazilian Government. It is well to know, when speaking of the Brazilian Government, that really we are under the San Paulo Government. I do not wish to draw distinctions, but as we are in San Paulo we can congratulate ourselves that it is well known to be one of the richest, if not the richest, and the most business like of all the united States of Brazil, and, as I say, it is matter of congratulation that our properties are situated in this State, and I feel perfectly sure that the good citizens of San Paulo will be too much alive to the advantages to be gained by a closer connection and honerable relationship between the City of London and San Paulo, to endeavour to do us anything but good So I think, really, the talk about the misfortune of our property being in Brazil is beyond the mark altogether. At all events, I have every confidence in telling you that I believe we shall find we have no reason to regret that it is so situated, and that it will prove itself in the future what it has been in the past—the most profitable coffee-growing concern, not only in Brazil, but in the world. (Applause.)

Mr. Talbot said that, as the chairman had stated, he had visited the estate. With regard to the estate itself, the points they would look to would be its accessibility, the climate, the soil, and the lay of the land. With regard to its accessibility, there was a railway to within 13 miles of it, and then there was a railway belonging to the company, which ran over it, so that the trans port of goods was uninterrupted. As to climate, he was only there a short time; but it was very healthy, and it must be good climate, because the coffee, after bearing one very large crop, was in good blossom. The soil was a chocolate loam, and was very free, which was very necessary for coffee. It was a rather sandy loam, and the rain sank in, and yet it was rich, which was easy to see. The lay of the land was very easy. It was gently undulating, and could easily carry off the water. It was about the same kind of lay as Hyde-park. Coming to the coffee itself, it would be asked what the yield was, the vigour of the trees, and the cost of production. The yield of Dumont coffee was about 10 cwt. to the acre, which was a very good yield in the East. With regard to the vigour of the trees, they were grown there in a perfectly natural way. In the East, generally, the top of the tree was 3 ft. or 4 ft., and in some parts of Java they planted shade near the trees. At Dumont the trees grew naturally to a height of about 12 ft., and had no shade and yet with that more exposed system they were very strong and vigorous. With regard to the strength and lasting property of coffee in Brazil, he passed an estate which was pointed out to him as being seventy years old. If the Dumont trees lasted that time, and bore like they did last year, that would be good enough for them. With regard to the cost of the work, that was certainly very cheap compared with anything they had been used to, but he thought the picking had been done too cheaply, and would have to be done rather more expensively in the future. As to the security of tenure he had made a good many inquiries. He had consulted the manager of the English bank at San Paulo and many merchants there, and the conclusion that they came to was that their property was absolutely secure.

Answering a question, Mr. Talbot said he thought they need have no fear of not getting sufficient labour.

In reply to another Shareholder, the Chairman said he had no means of knowing whether the £120,000

was earned last year. His own private opinion was that £100,000 had been earned this year. They would do all they could to improve the interests of the company.

This concluded the business of the meeting.

## THE DEVELOPMENT OF CEYLON: LAND FOR TEA AND OTHER PRODUCTS.

An old planting resident—one who has travelled about the country as much as anybody we know—thus treats of the reserve resources in land suitable for tea and, we suppose, other products:—

"I do not think anyone in Colombo even quite realizes the extent of land in Ceylon suitable for tea. When last in Surveyor-General's Office he showed me plans of such land already surveyed in blocks amounting to 200,000 acres, and this only forms a *small* portion of the available, and does not include the splendid plateau from Horton Plains onward, which had we known was to be locked up, the railway to Uva would never have been suggested. I do not say it would be wise to extend, but it is less wise to drive away capital and capitalists to Wynaad and elsewhere. Overproduction is, of course, possible in anything. We have it even in wheat, corn, meat, and silver, &c. Meanwhile it affords work for the many. It is our duty to cultivate and trust Providence that mouths will increa e. Adam did as he was told and didn't worry about markets!"

Between Maskeliya, Balangoda and Bambarabotuwa there are large forest reserves; on the Western slopes of Adam's Peak, there is an immense extent of Crown land suited to tea, and lower down to cacao, Liberian coffee, and even coconuts. Our "Handbook and Directory" gives much information on the subject. But first we should like to see the Crown reserves between Dimbula and Uva unlocked, as we mention elsewhere; because these are specially suited for the growth of the finest teas, and the railway wants traffic.

## CEYLON TEA IN AMERICA.

Under the heading of "Club Echoes and Tea Leaves" by "an ex-Upcountry Resident" on page 545, a report is given of an interview with our American Tea Delegate, in which reference is made to a circular sent out by a Boston firm. The following, we believe, is the circular:—

GENERAL LETTER TO CUSTOMERS.

The tea growers of the British Colonies, India and Ceylon, finding the markets for their productions of tea limited to consumers of the Congou or English Breakfast variety, and wishing to open up new markets have formed themselves into an Association, and for some time past have had a duty imposed on their export, the amount so collected being passed to a fund to be expended in advertising and such other means as will increase the consumption of these growths.

For such a purpose, naturally the largest tea consuming market using the smallest quantity of their tea would be sought as the best field for their labour. The United States offered this, the consumption being only about 10 per cent. of the breakfast sort, while more than two-thirds of the 90 per cent is green tea, the balance being Oolong which, while black in dry leaf, is only slightly fermented, and resembles more in drink the green tea, thus showing the United States to be consumers of light liquoring, bright aromatic tea, rather than the black, thick liquoring type acceptable to the tea consumers of the British Isles.

Hence, the United States has been selected, a Commissioner appointed by each association, and the funds placed in their hands for disbursement. The advertisements extolling the virtues possessed by only India and Ceylon teas show these agents are at work.

While we are not advocates of this variety of tea, having no desire to change the popular taste (preferring to cater to that, rather than adopt any educational methods) we feel that the time is ripe for us to be represented by a package of this type of tea, that we may secure part of the ten per cent of consumers using the variety, and benefit by such demand as is influenced by the funds of the two associations.

We now offer such a tea under name * * * as we believe will prove more acceptable to consumers of the variety than any tea of its kind yet placed on sale, being of higher quality, than any other India and Ceylon tea on the market. Wholesale price for this tea is 40c. per pound f. o. b. Chicago—41c. per pound freight prepaid.

The "Orange Pekoe" will be packed only in half-pound lead packages, and in boxes of 18 and 36 lb. net—we think attractive sizes. The label we consider strikingly handsome. We recommend 60c. per pound for retail selling price, believing the margin shown is enough, while such quality should induce business at the price as against the inferior teas of English packing now being pushed for sale.

## TEA-PLANTING AND CROPS (BY A CONTEMPORARY).

### NOT A WORD AGAIN ABOUT MANURING!

Discussing the prospect for tea exports in the future, our evening contemporary writes as follows:—

"Extension is taking place chiefly in Uva, the Kelani Valley, Kalutara, and Sabaragamuwa, and the number of new clearings in Dimbula, Dikoya, Maskeliya, Ambagamua, Kotmalie, Hewahetta, Hantana, Pussellawa and in all the northern districts is comparatively trifling and insignificant. It may suit some people to ignore these facts or to minimize them; but we do not believe in half-truths or the self-satisfied morality which encourages them. We are not sorry that there is no prospect of a further large increase in the output of tea from Ceylon. If there were any prospect of such it would be disastrous for us. There is quite enough tea opened and being opened, as it is; and it will require all the efforts which we can command to maintain prices at a paying level. Let us, therefore, be thankful that further expansion will be on a moderate scale, such as the markets of the world will be able to take off without very great difficulty."

Not a word, it will be observed—not even the shadow of a reference to such an insignificant subject as Manuring! But a curious commentary on "further expansion will be moderate," is the statement in the same paper that in Balangoda district, one firm is about to open 2,500 acres with tea!

We trust Indian tea proprietors will take note of the latter fact and also of our "Manuring" correspondence before they feel encouraged by our contemporary's wilful minimizing of the future of tea in Ceylon, to put in additional large clearings in North and South India.

COFFEE PLANTING IN BRAZIL.—Mr. Talbot's exposition of the way in which coffee is worked in Brazil, is very interesting; while his figures are distinctly encouraging to all interested in the Dumont Company (page 541).

## COFFEE PLANTING IN SUMATRA.

Mr. W. Turing Mackenzie who has come to Ceylon on a visit from the Straits gave an *Observer* representative an interesting account of coffee planting in Sumatra. Lately Mr. Mackenzie has been travelling in Perak and Selangor. The coffee that he saw there he described as doing very well and he has a great opinion of the country remarking, "I would chuck up my Sumatra land tomorrow to take up land on the Government terms there, but the climate of Sumatra is very much better, at all events than that of Perak—witness the churchyard at Taping which speaks for itself. It is excellently well furnished mostly with men under 35 years of age, malaria being the great scourge. But to return to Sumatra, I have 4,300 acres of land there part of which I am about to open. For the most part the land consists of jungle, but a small portion has been planted with tobacco and another small portion with coconuts. As regards labour I consider the supply to be the best I have seen out of Ceylon."

"Which, according to some people," interpolated the pressman, "is not very good."

"Well," replied Mr. Mackenzie, "I was a good many years in the island and I never had any difficulty, though I heard a good many complaints. Our labour in Sumatra is indentured labour from Java. It is easy to manage, the coolies being under the direction of a Mandor, which is the same thing as a Kangany. We pay 6 dollars a month for men and 3 dollars a month for women, which, roughly speaking, is about R12, and R6 respectively. You have to give 60 guilders (a guilder is aboat 1/8d) advance per head. Thirty guilders are recoverable from each cooly, and thirty guilders has to be written off capital account. Of this latter, 20 guilders goes to the cooly broker in Samarang and 10 guilders go for the cooly's passage and expenses in reaching the estate. Every cooly is registered before a magistrate, he is measured, and his name, age, village and special marks taken. Each cooly has his own paper, describing himself and when he is employed that paper is locked up in the estate safe by his employer. Do they ever bolt? you ask? Not very often. On each estate there are private police, who are also employed as *tapal* runners, &c., and they generally know when a cooly is going to bolt. If they find out he is handcuffed and sent to the Controller who gives him 12 days for the first offence and one month for the second offence. It is in the Sardang district of the Island that the coffee is planted. There is an Italian planter whose four years old coffee last year gave 10 piculs an acre equal to 1,335 lb., an acre. On another estate well-known to me owned by a German, and on which the coffee will be 4 years old next year the crop for the current year was 8¾ piculs an acre. On this German's estate I know of coffee that was picked, dried cured and despatced to Hamburg before the trees were 20 months in the ground It is the wonderful richness of the soil, and it is hardly to be believed.

"Does this not injure the trees"?

I have heard people say it does; but I don't believe in that argument. We were told not to take the bark from our cinchona trees until they were so many years old and so on but the men who waited for the market found that the market went away from them. When nature offers you a thing, take it, don't wait for the "to morrow." She may then give you a slap on the face. What about life in Sumatra? It is not rougher than life was in Ceylon twenty years ago. There are three Englishmen and Scotsmen planting in the Sardang district.

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## VARIOUS PLANTING NOTES.

CEYLON LAND AND PRODUCE CO.—The Chairman's statement to the shareholders of the Ceylon Land and Produce Co. at the twelfth annual meeting shows a very satisfactory state of affairs. The liabilities of the Company in pursuance of the policy hitherto pursued, have been materially reduced and in the matter of gross revenue the past year has been a record one. We think the policy of the Directors in gradually calling in the capital so that the shares may be fully paid up, is a sound and wise one, inasmuch as it removes all element of dubiety about the position of the holders. We hope, with the Chairman, that the dividend of 15 per cent. will still be continued (page 539).

CEYLON TEA IN AMERICA.—On another page Our London Lady Correspondent under the heading "Club Echoes and Tea Leaves" reports an interview with Mr. William Mackenzie on his return to London from America in the end of last month. It contains much that is gratifying and we are proud of the success that has so far attended the energetic labours of our Tea Delegate, who, we are glad to know, is "well and hearty." It is extremely pleasing for instance to know that "in Philadelphia the firm which ranks second or third highest among tea houses in America is working in conjunction with us;" that "another firm in Boston which claims to stand equal with the one just mentioned" has intimated to its customers "that they had never hitherto pushed Ceylon or Indian teas, but now having discovered others were doing so they intended an alteration of their previous policy;" that "Ceylon tea is largely in most of the blends offered to the public;" and that excellent work was done on behalf of our staple product at the annual food show by a lady who was formerly resident in Ceylon. All this, we repeat, is very gratifying indeed and we rejoice at it; but does not the fact that firms such as the one mentioned are being obliged to handle our teas because others are doing so, go to support our contention that the time is approaching when we must treat all traders alike either by advertising or subsidising direct so that all may have an equal chance of participating in the benefit accruing from the local fund? We have only warm approval for expenditure in connection with exhibitions and Demonstrations. What we contend is that there must be a limit to special subsidies and grants, and that that point will erelong be reached both in America and Russia when private enterprise and trade competition must be allowed to take its ordinary course. If advertising in the press, as Mr. Mackenzie says, must be followed up by other means of bringing our teas before the public, surely the dealers might fairly be expected to do that seeing that we save them the expense of the former. The depreciation of newspaper advertising by our Commissioner at this time is rather inconsistent with his report a little while ago of a Canadian Firm who had been got to advertise Ceylon tea in over 300 newspapers. We plead for similar inducement to be given to all firms willing to follow this good example,

## HOW TO PUSH CEYLON TEA IN AMERICA.

### MR. WM. MACKENZIE OF THE CEYLON TEA ASSOCIATION

has but just arrived back in this country, having only landed last Saturday (Dec. 18), and looks well and hearty after his recent American visit. I found him conning over the editorial in the *Overland Observer* of the 25th November last, and not, as I presently discovered, at all agreeing with many of the sentiments therein expressed.

"It's an entire mistake in my opinion," he observed, "to suppose as this article has it, that advertisement by ordinary methods will be sufficient by itself to push our teas in America. Assisting agencies already on the spot *must* be united with newspaper advertisement. In America every kind of industry is put on the market by some such means as I have indicated. Agents having Ceylon and Indian teas to push, go to the large grocery shops, or stores as they are called over there, and they get the permission of the heads of such firms to establish demonstration stalls on the premises, the expenses being paid by the agents themselves. Girls are put in charge, whose business it is to offer customers coming to buy other goods a cup of tea. Such an offer you will easily see is welcome to most people; they accept the invitation, and listen to what the teamaker has to tell them as to the good qualities of the tea, how best to make it for themselves and so on. Then they probably buy a pound to take home with them, and on that pound there is a profit to the store proprietor. The people come back for more and by and bye in that store Ceylon and Indian tea are kept, and given a good place on the counter—not stuffed into any odd corner where no one will ever see it or think of buying it, but put in a prominent position so that the public get to know that tea is certainly to be had in the particular store in that particular street.

"In the 100 millons lb. of teadrunk in America," continued Mr. Mackenzie, "not more than one-fifth is black tea—all the rest is green, etc., imported from Japan and other places. It is to secure for ourselves that one-fifth we have to aim. At church fêtes which are extremely popular over in America, large firms put up stalls for the sale of tea, where demonstrations are given, and the same sort of thing is done in theatres and many other public places, even when they only pay half or a quarter of the expense it pays us to do this. As for jealousy, if any such exists among the Colombo merchants, it must be remembered that they do no missionary work themselves. After all we do not, as an association, exist for the tea merchants, but for the tea growers; and in a case of this kind, though it might be very pleasant to indulge in sentiment, we have to consider the question on the main issue. The method of advertising which gains most customers for Ceylon and Indian teas, will be the one which will eventually benefit all most. Paper advertising alone is perfectly useless. You may talk to people as long as you like about the merits of your tea, but as long as they do not see it, don't know where it is to be got, or how



to use it when they do get it, you will do practically no business with them in America. What competition we meet with there is healthy? Let people push their own blends, and they will push Ceylon tea along with them. Ceylon tea is largely in most of the blends offered to the public, and the more blends the better."

"Yes," said I, "one of the great tea blend people told me the other day *they* did not care for Lipton." "If there were *twenty* Liptons in the market," said he, "the better for us."

"Exactly," said Mr. Mackenzie, "that's presisely the idea, and only agents already actively engaged in pushing tea on the spot will do for us. The more trade the better for all. We must use the methods most expedient, and that shortsighted policy of keeping one another out lest one gets a slight advantage over his neighbour is injurious altogether."

"In Philadelphia now," resumed Mr. Mackenzie, "the firm which ranks second or third highest among tea houses in America, are working in conjunction with us. At the Annual Food Show there, for example, a fortnight ago, there was a lady—an old Ceylon resident by the way who, consequently, has some practical knowledge of tea growing—who was working away busily all day long with fourteen girl assistants, at the making and giving away of cups of Ceylon tea. That's what I call a good advertisement. Another firm in Boston, which claims to stand equal with the one just mentioned, has recently sent out a circular of an apologetic character to its 16,000 grocer customers to the effect that they had never hitherto pushed Ceylon or Indian teas, but now having discovered others were doing so, they intended an alteration of their previous policy. Again Siegel Cooper had six of these demonstrations of Ceylon and Indian teas going on at one time in New York and four others in their Chicago branches while an English firm gave no less than eighty of these object lessons lately. In short," summed up the Ceylon Commissioner, as I bade him good-bye, "if the *Observer* wants my opinion you have now got it on this question. Advertising by the press alone is perfectly useless. The main point to be arrived at is the selling of Ceylon tea. On that, I suppose we are all agreed. Then that can only be done on the lines I have mentioned. At present the American market is well, perhaps, overstocked with tea, and probably less this year will be taken into the country than has been the case for a short time previous to the Chinese and Japanese war. We can make little impression on the market as regards green tea, but we may secure the trade in black teas if we go the right way to work."

BROWN-PATERSON.

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## THE TEA SITUATION IN AMERICA.

The *American Grocer* of Dec. 9th, considers the tea situation a strong one, for the following reasons:—

The season at most of the China and Japan tea ports is over, and we now are enabled, through a compilation made by a prominent firm of tea brokers, Messrs. James and John R. Montgomery, to present the statistical position of tea on December 1. At that date there were afloat eight vessels carrying 9,146,333 pounds of tea, due here from now forward until March 15, 1897. The shipments include 3,462,385 pounds of green tea, 2,678,723 pounds of Japan, 2,115,825 pounds of Formosa, 275,280 pounds of Foochow, and 614,400 pounds of Congou. The situation

may be summarized as follows: [We only give the totals.]

*Statistical position of Tea for United States and Canada on December 1, 1896.)*

| | | Total lb. |
|---|---|---|
| Total afloat to December 1, 1896 | .. | 9,146,333 |
| Receipts to December 1, 1896 | .. | 54,057,858 |
| Total shipments advised by mail | .. | 63,204,191 |
| Leaving to be shipped | .. | 19,145,809 |
| Estimated supply, Season 1896-97 | .. | 82,350,000 |
| Supply, Season 1895-96 | .. | 105,300,581 |
| Afloat, December 1, 1895 | .. | 8,362,658 |
| Receipts to December 1, 1895 | .. | 75,308,959 |
| Tot. shipm'ts adv'd by mail, Dec. 1, '95 | .. | 83,671,617 |

The above shows a deficiency for 1896-97 of about 23,000,000 pounds, a loss in supply quite sufficient to account for the recent advance in cost.

From now on, the consumption should be much better than prior to the election, besides which dealers, both wholesale and retail, will carry a more liberal stock, as they have confidence that the future will be reasonably free from the factors which have so disturbed business since 1892. Then there is a prospect for the imposition of a tax on tea and coffee, as well as an additional tax on beer, and this ought to stimulate demand. There is a growing sentiment that taxes in the direction named are the easiest way to give the Government more revenue. The tea position is a strong one.

There ought to be encouragement in the above figures to ship Ceylon tea to America ?

## ORIENTAL ESTATES COMPANY.

The adjourned ordinary general meeting of the Oriental Estates Company, Limited, was held on the 17th Dec., at Winchester House, Old Broad-street, Mr. Quintin Hogg (the chairman of the company) presiding.

The Secretary (Mr. H. GREEY) read the notice convening the meeting.

The CHAIRMAN said the first business they had to transact was to adopt the accounts and report. They were formally received at the last meeting, but not adopted. He then proposed their adoption.

Mr. A. W. CREIGHTON seconded the motion, which was put to the meeting and carried.

An extraordinary general meeting was then held for the purpose of receiving and adopting the committee's report with regard to reducing the capital of the company.

Mr. MACASKIE, in moving the reception of the committee's report, said it would be within the recollection of the meeting that in July last the committee were appointed when a scheme had been put forward which did not, at all events, satisfy the preference shareholders. They were invited to confer with two representatives, Mr. Slaughter and Mr. Touch, who represented the ordinary shareholders with the object that they were aware of. He could not help recalling, believing as he did, in the scheme which they had arrived at, the position of affairs today. The preference shares were at that time about £3 10s., or perhaps less in the market, but the difficulty that confronted the preference shareholders was perhaps chiefly that they had no control over the operations of the company by reason of the state of the capital account. The control rested with the ordinary shareholders, which was very unfair to the preference shareholders, because, according to their information, the bulk of the ordinary shares was held by comparatively few persons. Under those circumstances it was perfectly clear that the power of withholding dividends for a time, or indefinitely, rested with the directors and the majority of the ordinary shareholders. For that there was, at that time, no cure. Whatever a court of law might have said if the directors had chosen to declare dividends, he was quite certain that no court of law in the world would have ordered the directors, against their own judgment, to declare them, and therefore they were face to face with the probability that the preference shareholders would have to go without dividends for five, ten, fifteen, or twenty years. That was a very uncomfortable position, and although he was very far indeed from saying that the ordinary shareholders would have used the power they had for their own interest against the company at large, it was, at all events, an uncomfortable position for the preference shareholders to be in. Accordingly, the committee set themselves to find some way of reconciling those conflicting interests by means of mutual concessions. He did not propose to discuss the details of the report, but there was one consideration he would like to bring before the meeting, which he did not think ought to be absent from the minds of the shareholders. He said little or nothing about the way in which they had treated the arrears of the preference dividends, because, after all, that was a comparatively small matter. He said nothing about the provision by which the preference shareholders acquired the controlling power over the operations of the company. That, of course, was obvious and patent upon the face of the report; but there was this consideration, which certainly never entered the head of anyone of the three gentlemen who represented the preference shareholders, but he was bound to say operated very powerfully upon the minds of Mr. Bishop, Mr. Lawrence, and himself, and that was that they gave up 18 per cent. of the capital, and, of course, 18 per cent of the profits, to be earned by the ordinary shareholders. What did that mean ? Before assuming the scheme did not go through, they were entitled to a preferential dividend of 7 per cent. To pay that they required, roughly, £14,000. The effect, therefore, of the scheme was that as long as the trading profits of the year were £14,000, or under, the preference shareholders were giving up to the ordinary shareholders about 18 per cent. of their £14,000, which the articles would have given to the preference shareholders. That was to the advantage, of course, of the ordinary shareholders. But, supposing the profits upon the year's trading exceeded £14,000, then 82 per cent. of that excess over £14,000 went to the persent holders of preference shares, and in estimating whether or not the right to 80 per cent. of the excess over £14,000 was or was not equal to, or, as he thought, much more valuable than the concession that the preference shareholders were called upon to make, they must look at the results of the last six or seven years' trading. He had taken the trouble to go through the balance-sheets during the last six or seven years, and the results from the preference shareholder's point of view were very remarkable. He did not know whether they should assume that the results would in future be worse than they had been in the past, because in 1892-93 they suffered a good deal from the effects of a disastrous hurricane, which would not occur again, perhaps, for ten or eleven years. If they looked back at the balance-sheets, they would find that in 1890 the profit upon the year's trading was over £26,600—that was to say, £12,000 in excess of the £14,000, of which the preference shareholders would take about 80 per cent. In 1891 the trading profits were £27,000, in 1892 they were £28,000, and then came the year of the hurricane, from which they suffered a loss, and when there was a profit of only £14,000; but still, they would see that the advantage would have been in favour of the preference shareholders. He ventured to think that those figures, if they at all represented what they were likely to meet with in future, were in favour of the preference shareholders.

Mr. CLAUD BISHOP seconded the motion, which was supported by Mr. LAWRENCE, and carried unanimously.

The CHAIRMAN said the next business was to discuss the report of the committee, and before putting the clause seriatim he wished to say that he very cordially recommended the adoption of the report. He did not at all admit an entire difference in the two reports, but he contended that the second scheme was infinitely preferable to the first. If they took the average profits in the past two years and dealt with them on the basis of £20,000, the scheme, with the two modifications which he recommended, it would be seen was not very different

from the scheme of the committee. Roughly speaking, the preference shareholders got four-fifths, while the ordinary shareholders got one-fifth of the unified stock. They also got the advantage which they would not have got under the first scheme, namely, scrip not bearing interest for the unpaid portion of their interest. With regard to the question of strengthening the board, the directors had no objection to welcome anybody who was put forward by the shareholders; but it appeared to him that, as it was suggested that the committee should be kept alive for the purpose of carrying out the recommendations in the report, it would be a very good plan to refer the matter to the committee, and the board to recommend one or two names as members of the board.

Mr. WOOD contended that the scheme was unfair to the ordinary shareholders, while other shareholders maintained that it was unfair to the preference shareholders.

After some discussion the following resolutions were carried:—(1) "That all the issued shares of the company, being fully paid, they be and are hereby converted into stock." (2) "That the capital of the company be reduced from £566,700, consisting of—stock resulting from the conversion of 40,902 preferred shares of £5 each, £204,510; stock resulting from the conversion of 228,092 ordinary shares of £1 each, £228,092; 19,028 preferred shares of £5 each, unissued, £95,490; 38,608, ordinary shares of £1 each, unissued, £38,608—£566,700; the stock of the nominal amount of £250,000 and that such reduction be effected by cancelling all unissued shares, and by writing off and cancelling, as being unrepresented by available assets, £182,602 of the stock resulting from the conversion of ordinary shares, in such a manner that the reduction of £182,602 shall be borne as between the several holders of the last mentioned stock, rateably in proportion to the amount of such stock held by them respectively." (3) "That the name of the Company be changed to 'The Anglo-Ceylon and General Estates Company, Limited.'" And a further resolution was agreed to altering the articles accordingly.

Mr. RADFORD proposed that the meeting recommend the election of Mr. Macaskie and Mr. Bishop, to whom they were all greatly indebted for formulating so excellent a scheme.

The CHAIRMAN stated that the directors had not the slightest objection to the appointment of the two gentlemen nominated, but he suggested that it would be better to leave the matter in the hands of the committee and the directors.

Mr. RADFORD assented to this suggestion.

Meetings of the preference and ordinary shareholders then took place, at which the agreement modifying their rights and privileges to give effect to the resolution was agreed to.

The proceedings terminated with a vote of thanks to the Chairman.—*H. & C. Mail*, Dec. 25th.

## THE COMING CEYLON TEA CROP.

A correspondent reports that he hears the Planters' Sub-Committee give the Estimate for 1897 at a little over

117,200,000 LB.

We notice on the other hand that Messrs. Forbes & Walker, who are generally very accurate—and whose praise as compilers of tea statistics our contemporary has just been singing—estimate the present year's tea crop or rather export at

120,000,000 LB.

And this is just the figure we considered likely when a planter said we were to be 122 million lb. Messrs. Forbes & Walker give the total export

| | |
|---|---|
| for 1896 at ... ... ... | 108,141,412 lb. |
| Their Estimate for 1897 ... | 120,000,000 ,, |
| Estimated increase ... | 11,858,588 lb. |

The "Customs" total for the Export of 1896 is 110,095,358 lb.

## TEA PLANTING IN CEYLON AND CROPS IN THE FUTURE.

We direct the attention not only of readers of our journal in Ceylon, but of the not a few planters who get our daily or weekly issues (and the still larger number who read our monthly) in India, to the letter signed "Festina" further on. It comes to us authenticated by a responsible proprietor of estates, who has had prolonged experience both as coffee and tea planter in Ceylon; and he shows very clearly that those who would minimize the future tea crop resources of Ceylon or speak of our getting near the maximum export are greatly mistaken. The difference between the cultivated and total extent of the tea plantations in private hands in Ceylon, must amount to over 300,000 acres; and if we strike off even *two-thirds* of these reserves as unfit for profitable cultivation, we must still have fit for cultivation, an aggregate of 100,000 acres spread over all the tea districts already taken up. Of course the planting up of such reserves will depend on the encouragement offered. What our correspondent says about manuring is also worthy of very serious consideration.

## BOTANICAL AND AGRICULTURAL PICKINGS.

The death of

BARON FERDINAND VON MUELLER

leaves a wide gap in the botanical world. His biography, it has been said, will be a history of Australian botany during the last four decades. The number of publications of the Baron is stated to be something enormous, though many individual works was sufficient to make the reputation of any man. Referring to his last hours his co-worker (T. O. Maclennan) writes:—"The Baron had at least his one great wish fulfilled, namely that he should die in harness. His illness only lasted a fortnight, and for the first week he would insist on getting up and going to his office though only for a short time. His death was, no doubt, due to an affection of the brain due to constant study, worry and insomnia, to which might be added, almost total want of bodily exercise. He passed away (Oct. 10th) quite peacefully without any apparent pain." This passion for work, strong even on the eve of death, reminds us of the last days of our late Director of the Peradeniya Gardens, who like the great Aurtralian botanist, died in harness.

There has been some plainspeaking with reference to the alleged purchase by the Secretary of State of £10,000 worth of

CARROT SEED

for famine relief purposes in India—to sell to the ryots at cost price. A native Indian paper pronounces this an "atrocious piece of jobbery." The *Indian Agriculturist* referring to the transaction says that "even if the statement made in the *Pioneer* that the local Government is responsible for the purchase, is correct it is clearly unjust to charge the India Office authorities with an atrocious piece of jobbery. Tomfoolery, we fear, it is; tomfoolery in a somewhat unexpected place."

The "Agriculture Ledger" series of pamphlets and and leaflets issued by the Government of Bengal is a most valuable publication as each fresh issue only tends to prove more conclusively. In a late pamphlet on cattle disease reference is made to local native remedies. They are not to be despised, says the writer, and though not scientificially explained, there remedial measures tried by the experience of ages, may not in some cases be without scientific foundation, and at any rate deserve to be investigated before being discarded. Speaking of native medicinal herbs and plants, the writer goes on to say that a systematic and patient investigation will not fail to yield results of some value,

There is without doubt much in native treatment of cattle disease even in Ceylon worthy of investigation and a qualified Veterinary Surgeon should bo able to do some useful work in this connection.

ORYCTES RHINOCEROS

has of late being doing great damage among the coconut trees in Cochin. The Superintendent of the Calcutta Museum recommends the following treatment. Searching for larvae and pupæ and destroying; capturing the adults by attracting them to fires; cutting down the affected trees and burning to ashes. The Agricultural Department, Madras, suggests injecting the holes made by the pest with kerosene oil, or a strong soap solution.

Under the head

"HORTICULTURAL NOTES"

in an Australian paper occurs the following memo. "Mr. Chamberlain's collection of orchids is worth from £15,000 to £20,000. The collection of the Dowager Empress of Germany is worth nearly double that of Mr. Chamberlain. Miss Alice Rothschild's collection of roses is valued at £10,000, while Mr. Astor (the liberal donor of £2,000 to the Indian Famine Relief Fund) paid £1,500 to an English grower for the stock of a single variety of rose, which is said to have been introduced into Europe from Damascus by the crusaders, appearing first in England in 1306.

## RHEA*

Mr. W. Gollan, Superintendent of the Government Gardens of Saharanpore, writes:—"I suppose like myself, you are often bothered over rhea. Mr. Ribbentrop, Inspector-Generl of Forests, published a note upon it in the *Pioneer* a few weeks ago, and since its appearance I have had no end of letters about it. In his article he mentions £7 per ton as a paying price for the dried ribbons landed at Bombay. I dare say the Rhea Fibre Syndicate would like to purchase them at that figure: considering it takes R75-4-0 (£ 4-7-9½ at 1*s*. 2*d* per rupee) to carry a ton of rhea from Saharanpore to Bombay, I do not see where the grower's profit comes in. Rhea is one of those erratic plants that will grow or exist anywhere in India, but to make it produce even one good crop of wands in Upper India districts, it requires the richest of soils, further enriched with expensive dressings of manure. Our highest outturn is a ton of wands per acre weighed, after stripping off the leaves, which yield from 3 to 7 per cent. of ribbons, according as they are well cleaned and scraped or not; so it takes from three-and-a half to seven acres of land to produce a ton of ribbons, which will, according to Mr. Ribbentrop, fetch £2-12-2½ to the grower in Bombay after meeting freight. After the grower has paid land rent, irrigation charges, cultivation, cost of stripping the ribbons from the wands, drying, packing, delivery to railway station, etc., I greatly fear his £2—12—½ will be *nonest*; in fact, at Mr. Ribbentrop's price, he will have to draw upon his banker pretty considerably after spending the above to even produce his ton for which he is to receive £7 at Bombay."

It will be seen from the above letter that there is no profit to be made in the cultivation of rhea in the North-West, unless prices go up considerably, and it is probable that, at the present rates, rhea cultivation in Assam will not pay. So far the Rhea Fibre Syndicate do not appear to have quoted f. o. b. rates for Calcutta.

It would be as well for members cultivating rhea to note that though plantations are made on rich soil, further enrichment is necessary to raise a remunerative crop.—*Indian and Eastern Engineer*, Jan. 16.

## COFFEE STENOPHYLLA.

There are now three specimens of this variety of coffee growing on the Nilgiris, one of which is at Burliar and the other two in private gardens. They are apparently the only specimens of this variety left in Southern India, and were kindly sent us by Mr. Cameron of the Bangalore Lal Bagh, as they were not found to thrive there at all. The U. P. A. would do well to obtain a consignment of the seed through the Kew Gardens. The following details regarding this variety of coffee is taken from the Kew Bulletin, p. 167, of 1893:—

The narrow-leaved "wild," "bush," or native coffee, is sometimes found wild on the hills, and is more often cultivated by the natives than the Liberian. It grows very freely, and appears to yield quiet as much as the Liberian but it is somewhat longer in coming into bearing. Both the natives and French traders at Freetown say that it has a superior flavour, and prefer it to the Liberian. In fact, latterly, a certain amount has been exported to a wholesale French dealer, who is said to sell it at 4 francs 50 centimes a lb. as "best mocho." Considering that it is worth in Freetown about 6d. a lb., this should be a fairly profitable trade, and a trial shipment should be made by the English merchants to find out exactly what the market value in Liverpool would be. The plant appears to thrive best on the higher hills about Sierra Leone, on gnoeissose or granatic soil, and can be grown from 500 to 2,000 feet. Probably it may be grown both above and below these limits.—*Planting Opinion*, Jan. 9.

* Extract from "Proceedings and Journal of the Agricultural and Horticultural Society of India."—July September, 1896.

THE FAMINE AND THE TEA INDUSTRY is the subject of editorial remark in the *Indian Planters' Gazette* to hand. Our Indian contemporary characterises the *laissez faire* policy of the Supreme Government as suicidal in the extreme and fraught with the most dire consequences. Dealing with the famine as affecting the tea industry, the *I.P.G.* says:—

To tea-planters, specially those in the Brahmaputra and Surma Valleys, the matter is one of very grave moment. How are they to feed the enormously large labour force dependent on them? Leaving aside monetary considerations, where are the vast quantities of *dhân* the rice which will be required to feed some 700,000 souls to come from? Futher, considering the deficient means of communication, how are regular supplies of food, in quantites, to be implicity relied on? If the Railway, Steamer and Carrying agencies fail in their transit arrangements, and Planters hold no guarantees that their food stocks shall arrive punctually to time, how can Managers of Gardens rest satisfied that they will always have a sufficient stock of rice in hand to meet all demands? In the event of a deficiency, they will not be able to fall back on local supplies for, practically, they would, in such case, have to be reckoned upon as *nil*. At the best, local supplies are wholly inadequate to meet a severe strain The mercantile tea agency houses, as well as the planters dependont on them for their rice supplies, are having a most anxious time of it. The capital to purchase stocks of paddy and rice is not wanting but the question is how are continuous and sufficient supplies to kept flowing into the tea districts of Assam, Cachar, and Sylhet to meet the enormons demands. The scarcity will in all probability extend over a period of six or seven months yet to come, so that the trouble is now only commencing. Whether the Indian Tea Association are taking their cue from the Indian Government and waiting and watching events, we cannot say; but as yet it has taken no action in the matter, so far as the outside public are aware. If the advice of planters is taken and faithfully followed, the responsibiliy will be taken off the shoulders of the agency houses in Calcutta, but if ignored the firms will only have themselves to blame for the dire results which are sure to accure in the future, if adequate action is not taken and promptly carried out. We trust that the Indian Tea Association and the agency houses in this city will soon make known the measures they have adoptod to meet the great strain there will undoubtedly be on their resoures.

## THE EXPORT OF CHINA AND JAPAN.

### TEA.

From the *Hongkong Weekly Press* of 31st Dec. 1896 we take the following :—

EXPORT OF TEA FROM CHINA TO GREAT BRITAIN.

| | 1896 97. lb. | 1895-96. lb. |
|---|---|---|
| Canton and Macao .. | 6,058,521 | 7,213,224 |
| Shanghai and Hankow.. | 17,898,886 | 20,724,674 |
| Foochow .. | 12,262,311 | 13,814,491 |
| | 36,219,718 | 41,752,389 |

EXPORTS OF TEA FROM CHINA TO UNITED STATES AND CANADA.

| | 1896-97. lb. | 1895-96. lb. |
|---|---|---|
| Shanghai .. | 19,332,042 | 27,879,154 |
| Amoy ... | 16,446,017 | 11,610,453 |
| Foochow ... | 9,590,452 | 9,836,864 |
| | 45,368,511 | 49,326,471 |

EXPORT OF TEA FROM CHINA TO ODESSA.

| | 1896-97. lb. | 1895-96. lb. |
|---|---|---|
| Shanghai and Hankow .. | 22,949,123 | 27,240,863 |

EXPORT OF TEA FROM JAPAN TO UNITED STATES AND CANADA.

| | 1896-97. lb. | 1895-96. lb. |
|---|---|---|
| Yokohama .. | 25,949,716 | 28,956,080 |
| Kobe .. | 13,519,653 | 18,012,100 |
| | 39,469,369 | 46,968,180 |

## THE KANDYAN HILLS CO., LTD.

A General Meeting of the Shareholders of the Kandyan Hills Company, Limited was held at the Registered Office of the Company, (Messrs. Carson and Co.'s) No. 21, Baillie Street, this afternoon.

Mr. F. Macindoe presided and present were Messrs A. Forsyth, E. R. Waldock, A. Anandappa, G. J. Jamieson (by his Attorney Mr. F. Macindoe) and Messrs. Carson and Co. (represented by Mr. F. Macindoe). On the motion of MR. FORSYTH seconded by MR. ANANDAPPA the *provisional* Directors:—Messrs. J. N. Campbell, F. Macindoe, and E. R. Waldock, retiring in terms of the Articles of Association, were reelected.

Following the Ordinary General Meeting an extraordinary General Meeting was held—present as before. The following resolution on the motion of MR. FORSYTH seconded by MR. ANANDAPPA was passed.

That the Directors be and they are here' y authorised to borrow a sum not exceeding five thousand pounds (£5,000) Sterling carrying interest at the rate of five per centum per annum upon such terms and conditions as to re-payment and otherwise as to the Directors shall seem proper and to mortgage the Pansalatenne Estate and premises as security for the sum to be so borrowed and the interest thereon.

It was explained by the CHAIRMAN that the money was to be raised for the purpose of paying off an existing mortgage of £4500 on Pansalatenne estate bearing interest at 7 per cent in favour of Messrs. G. H. Trail, R. A. Bosanquet and J. D. Balfour, and to replace it with a mortgage bearing interest at 5 per cent in favour of the Standard Life Office up to £5,000. The Standard Life Office had consented to lend £4,500, but the Directors hoped to arrange a loan of £5,000, the additional £500 being required to pay for extensions.

This was all the business.

## KING COFFEE.

A NEW COFFEE LEAF DISEASE DEVELOPED IN SOCONUSCO CHIAPAS, MEXICO.

Coffee is king, because there is no shrub in the world so extensively cultivated as the coffee tree. America and Mexico, which latter countries have developed to large proportions during the last decade of years, and are taking their places among the higher rank of large coffee producing countries of the world. I have said that Ceylon was the third biggest producing country in the world. But a disease sprang into existence in that same year and checked its further progress. The effect of this coffee " small pox ' in the industry was terrible. Devastation, disaster, ruin, are words that ill describe the awful working of the plague.

From 1,000,000, in 1869, the export gradually declined until the output reached the insignificant figure of 50,000 quintals, which is the very la'e-t figures quoted from the London press. This statement leaves nothing to be added. Had the cultivation been completely obliterated, the final end could not have been much worse.

There is another disease Steilbum-Flavidum. It might be truly called a twin sister to Hemileia Vastatrix. It is so very alike in appearance and the effect which it produces on the coffee tree, that I have mistaken it for that disease, which the letter copied below clearly shows. I observed a great change in the luxuriant growth of coffee in Soconusco, Chiapas, Mexico, from 1889, and its late appearance during the few years last past. I examined it closely and carefully, especially in the section of the district called Chicharras, and thought I had unearthed the terrible demon Hemileia Vastatrix; I accordingly collected some leaves, gathered from the San Juan coffee estate; prepared them carefully, and sent them to the director of the Smithsonian Institution of Sciences, Washington, for examination and report when completed.

The following is a copy of his reply :—

Smithsonian Institute,
United States National Museum,
Washington, May 22nd, 1894.

Mr. W. J. Forsyth, Chiapas, Mexico :

Dear Sir,—The coffee tree leaves recently transmitted by you for examination, have been referred to the curator of botany in the National Museum. He has submitted them to Mr. Ellis, of Newfield, New Jersey, who states that the disease, which has affected the trees is not caused by the fungus Hemileia Vastatrix, but by the growth to which the name of Steilbum Flavidum (Cooke) has been given. This, I am told, is quite widespread. Mr. Ellis has, in his collection, specimens of the same fungoid growth from Costa Rica, Jamaica and Venezuela. In as much as no experiments have been made in this direction, no remedies can be suggested.—Yours faithfully,

G. BROWN GOODE, Assistant Secretary.

(2683) True copy W.J.F.

This disease is entirely and altogether confined to the district I have mentioned. In no other place in the coffee zone of Mexico have I observed it. I have travelled over a wide field of the belt, particularly in the State of Oaxaca, and looked carefully everywhere for indications of the pest, but failed to see the slightest indications. It therefore behoves the governments of those States, which are exempt from the visitation of either of these coffee plagues, to take every preventive measure possible, to prohibit the bringing into the disaffected States, live plants from the affected district of Chicharras, Soconusco Chiapas. This can be easily done, as they are entirely isolated, with little or no traffic between the States.

Of late there has been a considerable exodus of capital from the United States to different parts of Mexico. It is therefore with the kindliest feelings that I warn them to be guarded of an enemy subtle, to them, invisible, unknown, and which is only recognized by the scientific experts in the calling. Established estates are at all times the most engaging objects for investments of capital. There are

exceptions, however, to this rule, and the present is one. There are many estates in the District of Chicharras fairly well established, and are likely fields to attract capital; but a timely warning is herewith offered and it will be well for intending investors to investigate thoroughly what I say before committing themselves.

I shall before long have the pleasures of sending to my friends in New Iberia, a tale of life in Mexico.—Yours truly, J. W. FORSYTH.

—*New Iberia Enterprise*, Nov. 21.

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## COFFEE PLANTING IN BRAZIL.

### MR. TALBOT'S VISIT TO THE DUMONT CO.'S PROPERTY.

Mr. G. A. Talbot, who returned to the Island on on 18th Jan. last was good enough to give an *Observer* representative some interesting particulars, regarding the Dumont Coffee Company's estates which he has been visiting. In reply to questions, Mr. Talbot said :—"The property of the Company consists of about 14,000 acres in bearing. It is situated about 1,500 feet above the sea level ; but you must remember that that it is not the same as 1,500 feet in Ceylon, for here coffee land is only about 7 degrees north of the equator, and in Brazil, the Company's property is about 25 degrees to the south of the line. Consequently, the Brazilian climate is much more temperate, resembling that of Arabia. Yes, the estate is planted with *Arabica*. As regards the location of the estate, it is situated in San Paulo state, about 300 miles distant from the town of that name. A railway runs from San Paulo to within 13 miles of the Company's property ; and between the terminus and the estate, we have a railway of our own. This railway is of 2 feet gauge."

Can you give me any figures as to "the cost of haulage, working expenses, etc."

I cannot give you any precise figures, but it certainly answers very well and works economically. We also run passengers over the railway ; the carriages are entered from the ends, and are fairly comfortable. The goods waggons are of the ordinary bogie type. I cannot work out the cost of transport per cwt but I know that in the aggregate the cost is low as compared with the cost of similar transport in Ceylon. Santos is our market, from which the coffee is shipped."

"What about the yield per acre?"

I think I am safe in saying that the average yield per acre is about 11 cwt. People in the district think that the labour supply is sufficient ; but, according to Ceylon ideas, there are not enough of labourers. The labourers are principally Italians. They are not indentured. I believe you have to requisition the Brazilian Government for labourers and they assist in some way in bringing them over. I went to see some of the agents in Genoa on my way out, and they told me. if I went through this form, they could send me as many as I wanted. The bulk of the Italian labourers are peasants from the plains of Lombardy, with blue eyes and fair hair and many of them fine looking men and women. They do not pick so well as we did with Tamils in Ceylon.

"Can Europeans perform manual labour in the open without injury to health?"

"Oh yes! the property is just outside the tropics and the climate is very healthy, the daily pay is something over three shillings per head?"

Does not this high rate of pay largely increase the cost of production?

No, because there is so little cultivation. The cost is about thirteen shillings per cwt. All the cultivation we have to do is hoeing and picking and the yield per acre being large, it makes the cost per cwt. much cheaper than it was in Ceylon. In Brazil we do none of the pruning, draining, handling and other odds and ends which were done by Ceylon planters.

"Does the absence of pruning not cause the bushes to deteriorate?"

Pruning appears to be unnecessary seeing the large yields we are getting. Draining can be dispensed with as the rainfall is not heavy. There was no rain gauge available but I should say the rainfall was about 70 inches a year."

"What about the temperature?"

"I fancy it would average about 70 degrees. Picking begins in April and goes on till about the end of August. There is a good deal of machinery on the estate but the curing is not nearly so well done as it is here. However, we hope that by introducing Ceylon methods, we will be able to improve the quality very much, and to get a very much better price. In Ceylon, as most people know, we pull the coffee when it is ripe, pulp, it, dry it, and then what they call, peel it whereas in Brazil they pulp only a very small proportion they let it dry in the cherry and then hull it with a huller. The result is that the husk being on the coffee so long takes off what is called the "colour" or quality and it gives an inferior flavour as a sort of fermentation goes on. What we propose to do is first to get the picking carefully done, and by introducing Ceylon methods and Ceylon machinery we hope to get a better sort of coffee. That cannot be done at once, but it can be done by degrees. There will be a little difficulty in getting the men to adopt the new methods; and, probably, they will want higher wages for more careful plucking, and in that way it will increase the cost of production, no doubt, but we hope it will give us something like Ceylon coffee. As I have said, people on the estate say we have all the labour we want and that we can get as many as we like, which is very satisfactory as the introduction of new methods will necessitate a larger labour force. In saying that much less cultivation was necessary in Brazil than in Ceylon I forgot to mention that all the weeding is done with the hoe and not by hand picking, the work being done about five times a year. In Ceylon owing to the heavy rainfall, hoeing is impossible as the soil would be washed away In Brazil no such difficulty presents itself and consequently the expense of weeding is very much less. The coffee bushes grow about 12 feet high, but they are not so lanky as those in Ceylon because of the more temperate climate of Brazil. The Italians have a comparatively easy time. When they are not required by the estate they cultivate maize in the coffee fields for themselves. The maize they use for fattening pigs, and they contrive to make a good deal of money out of it. In some of the young coffee fields you can scarcely see the coffee for maize.

"Does it not smother the coffee and exhaust the soil?"

"It is said not to injure it and the soil seems so rich as to be able to grow both. I, however, do not like it, and I hope we shall be able to stop, to some extent at least, maize being planted among the coffee.

"What about the cost of weeding?"

Weeding is done by contract, 80 milreis being paid for 1,000 trees, that is about £1 per acre."

"Have you ordered any machinery from Ceylon?"

"At present there is no Ceylon machinery on the estate. The machinery is by Ledgerwood, a Glasgow firm, which competes with Messrs. Walker. Now that we are going to adopt Ceylon methods, we shall certainly use Walker's peelers and pulpers.

"What about power?"

"Steam is used, but at two or three points on the estate water power is available."

"Have you any black labour?"

"Not much. There are a few negroes about. A most extraordinary thing about that part of Brazil is that the slaves who were only emancipated some eight years ago are hardly to be seen anywhere. Where they have gone to I don't know. Most of them I fancy have drifted into the large towns and others have squatted on waste land."

"What about the future of the Company?"

"I am very hopeful of the future of the Company and the best test of its continued prosperity is found in the fact that in the London market the shares are readily saleable."

"Does not the prosperity of the Company depend on the stability of the Government? What are your views on this subject?

"I do not think the present Republic is a very stable Government; as a matter of fact, they were talking about a revolution when I was there. But a revolution in Brazil makes very little difference to property, especially if it is *landed* property, though it might be somewhat serious if the currency was disturbed. I consulted a man of some position—the manager of a large English Bank—on the subject telling him that one of the things urged against subscribing to the Company was the unsettled state of the country, and he said—'Nonsense, landed property, house property, real property is perfectly sound and one need not fear anything.' I also asked a leading lawyer—a man of standing in his profession—and he said since the Brazilians had to pay the large indemnities to Italians they had been very careful to guard the rights of foreigners. Personally the Brazilians, are a pleasant people to have dealings with."

Mr. T. L. Villiers of Yoxford, Dimbula, will take charge of the estates and he sails for England in the "Malta" on 11th Feb.. No doubt Ceylon methods under his direction will have beneficial results. Mr. Villiers is to be congratulated on this important appointment.

## PRODUCE AND PLANTING.

(From the *H. & C. Mail*, Jan. 1.)

TEA SHARES AND THEIR VALUE.—A study of the review of the tea share market for the past year, which appears in another column, will afford gratifying proof that the interest taken in tea shares by the investing public has not been in vain. Rise upon rise is to be noted in the price of the shares in the leading companies, while the debenture stock rivals the position held by gilt-edged securities of the first class. This is an enviable position financially, and it is due alike to the confidence shown in the management at home and on the spot, and to the belief that tea planting is a sound and well conducted industry, subject to fewer fluctuations than some forms of enterprise about which there is more flourish and less performance. Thanks to the efforts of Mr. Geo. Seton, of the Indian Tea Share Exchange, and Messrs. Gow, Wilson, and Stanton, the well-known tea brokers, and others, whose efforts to popularise the shares of Indian and Ceylon teas have been persistent, the public no longer regard these shares as something in the nature of a "dark horse." They can procure all the information they need, and when they have purchased shares they have been gratified in nearly every case, with the receipt of dividends and the prospects of others to come. The tea industry is in a healthy state, and although it will probably have to face increasing competition there is no reason why it should not show further and gratifying developments. We need not say that in eulogising the tea industry as a whole we are not necessarily endorsing the statements and prospectus of every venture launched as a tea company. The public must protect themselves, and thanks to the publicity given to the reports of the various companies and the information procurable from the brokers we have named, there is no difficulty in the way of information. As a whole, we repeat, the tea industry is on a sound footing. Investors who own well-selected tea shares are to be congratulated on their choice of investments, which certainly promise well, and are, so far as ordinary insight can judge, likely to give far less cause for anxiety than many other shares of the industrial order.

THE TAX ON CHINESE TEA.—In the able letter appearing in the *Times* on Chinese affairs from its correspondent at Shanghai reference is made to the taxation of tea and its effect on the tea trade of China. The *Times* correspondent says:—"The export duty on tea, fixed under the Tient-sin Treaty at 2½ taels per picul, represented no doubt in 1858 an *ad volorem* rate of 5 per cent., but at the prices which obtain to-day it represents much more nearly 10 per cent.; and, as if that were not a sufficiently crushing burden to place upon Chinese tea, the exactions levied upon it in the shape of *likin* amount to another 20 per cent. In many cases, indeed, the total taxation on tea before it leaves the Chinese port of export is estimated at no less than 80 per cent. *ad valorem.* Can anyone seriously contend that such extravagant taxation has had nothing to do with the disastrous condition into which the Chinese tea trade has fallen, and has not materially assisted the competition of Indian and Ceylon teas on the British market, or is not materially assisting that of Japanese green teas on the American market? Against 169 million pounds of tea exported to Great Britain in 1880-81, China exported only 37½ million pounds during the last tea season. With the change that has gradually come over the taste of tea-drinking public at home, it may be too late to recover all the ground already lost on the British market, but something may be done to save at any rate what is left of it and to avert the threatened loss of such other markets as China has still retained."

JAPAN AND ITS TEA TRADE.—According to advices from Yokohama the Japanese are striving to develop their tea trade in every possible direction. A committee of Japanese tea merchants has applied to the Government for a subsidy of 1,750,000 yen to promote the tea trade. It is proposed to spread the expenditure of this sum over ten years in maintaining two representatives both in India and in China to study the processes there adopted in growing and preparing tea and in advertising Japan teas in the United States and elsewhere. According to another account, it is proposed that the expenditure of the total sum shall be spread over five years only. It is very flattering to Indian and Ceylon growers that the Chinese and Japanese should wish to imitate their methods, but it is not at all desirable that Indian and Ceylon planters should teach the Chinese how to compete with them.

HUMOUR IN TEA.—In a chatty article about tea a writer in the January number of the *Cornhill Magazine*, E. V. Lucas, takes note of the paradox that a man who sells tea and nothing else occupies a rung in the Grundyan ladder far above him who sells tea and also sugar. Tea, in fact, confers a social rank of its own. "Mincing Lane and Park Lane," he continues, "are often on visiting terms,

and the scions of noble houses may be 'in tea' without shame. Similarly it is no disgrace to the daughters of Mayfair to serve tea in a West-end shop. Some of them perform this action with an air of condescension that reduces the timid man to pulp. A shy friend once told me of the tortures he had suffered in these resorts. 'But I was revenged at last,' he said, 'for an old countryfellow and his daughter who had been to the Academy, or Maskelyne and Cook's, or somewhere, came in. When he paid the bill he left an extra sixpence in the patrician's hand. She fixed him with her refrigerating eye, and told him cuttingly that he had paid sixpence too much. 'That's all right,' he said heartily, in a stage whisper; 'that's for you, my dear. Buy yourself a ribbon with it.' I like this story, because tea has not done too much for the humourist. Compared with alcohol it has done nothing." The writer recalls, too, the story told with great glee by the late Arthur Cecil, the comedian, of the cannibal tea to be obtained down at Kew—thus: "Tea, plain, 6d"; "Tea, with shrimps, 9d"; "Tea, with children, 1s."

COFFEE ADULTERATION.—The question of coffee adulteration is one which presents itself to the public mind occasionally, but it never awakens strong feeling. The consumer thinks, apparently, that a kind providence having ordained that coffee planters should grow coffee and experts manipulate it afterwards, it is the consumer's duty to accept the situation without complaint. A writer in the *Grocer* is good enough to tell us how some of the coffee adulteration fraud are carried out. One frequent kind of fraud has been the colouring of inferior berries to make them resemble those of better quality. For this purpose yellow ochre, chrome yellow, burnt amber, arsenite of copper, and coal-tar dyes are a few of the pigments which have been pressed into the service of those 'cute persons who devote themselves to exemplifying the dictum that "things are not what they seem." Take as an example the salvage coffee which is occasionally fished out of the sea after a wreck. Salted and sodden when recovered, it certainly does not look as though it would furnish a very saleable article. It is, however, by no means to be despised; after being purchased for a mere trifle it is washed with lime-water, dried, and then either browned by roasting slightly, or else coloured with an aniline dye. In the result berries are obtained which, in appearance at least, may even be superior to the original ones. Essentially the same kind of manipulation is said to be resorted to for the purpose of making green South American berries resemble the brown Java coffee, thus considerably enhancing their market value. A variant of this procedure is to take berries which have been already used to prepare "coffee extract" from, roast them up again with a small quantity of sugar, and then send them into consumption as genuine coffee. Another brilliant idea is to soak genuine berries in syrup before roasting; this causes the beans to retain more water than they otherwise would hold, and so increases their weight. A still more effective plan is to steam the berries after roasting, and then coat them with a film of glycerine or vaseline to prevent drying. The weight of the beans can in this way be increased as much as 20 per cent.

SPURIOUS COFFEE BERRIES.—Coffee adulteration offers a fine field for the man of genius. The writer in the *Grocer* gives particulars of another kind of deception practised on the Continent, and especially in America, where the manufacture of spurious coffee berries has developed into quite a flourishing industry. Only a few weeks ago the writer had brought under his notice a sample of coffee "made in Germany," in which the "berries" were composed of ordinary wheaten dough mixed with sugar; the mixture had been cast in moulds so as to closely resemble genuine berries, and then roasted till brown. By themselves the pellets were easily seen to be factitious, but when mixed with genuine coffee an appreciable proportion would readily escape notice if not subjected to sharp scrutiny. As a rule, artificial beans of this character are made of flour, chicory, and sugar, with other additions such as bran, acorns, peas, and coffee-grounds. Some much more gross impositions have, however, been practised; for example, "berries" have been moulded from fire-clay, and then utilised for roasting with genuine coffee. During the heating process the factitious clay beans absorb some of the oil and colouring-matter from the genuine ones, thus simulating the appearance of the latter sufficiently closely to pass muster on a cursory examination. Clumsy frauds of this nature are, however, rather matters of ancient history now; at all events in the United Kingdom they are practically never met with at the present day.

ADULTERATED TOBACCO.—Planters grow produce and manipulators adulterate it. Tobacco, like coffee, is treated very badly at the hands of the adulterator. According to official reports it is adulterated with sugar, alum, lime, flour or meal, rhubarb leaves, saltpetre, fuller's earth, starch, malt commings, chromate of lead, peat moss, molasses, burdock leaves, common salt, endive leaves, lamp black, gum, red dye, scraps of newspapers, cinnamon stick, cabbage leaves, and straw brown paper. The grower would have some difficulty in recognising the original product.—*H. and C. Mail*, Jan. 1.

## YATIYANTOTA CEYLON TEA COMPANY LIMITED.

Registered December 15, by Davidson and Morriss 40 and 42, Queen Victoria-street, E.C., with a capital of £250,000 in £10 shares (7,500 of which are preference shares). Object, to adopt and make binding on the company, and to carry into effect, with or without modification or alteration, an agreement, made December 7, 1896, between the Yatiyantota Tea Company, Limited, Colombo (a company incorporated under the laws of Ceylon), and George Hay Alston, the liquidator thereof, of the one part and C. S. Lott, for and on behalf of this company, of the other part; another agreement, made December 7, between the We Oya Tea Company, Limited, Colombo, and G. H. Alston, the liquidator, of the one part and C. S. Lott, for this company, of the other part; and a third agreement, made same date as above, between W. J. Smith, S. L. Harries, A. C. Roper, and Jn. G. Smith of the one part and C. S. Lott, for the present company, of the other part, and, generally, to carry on in all or any of their respective branches the businesses of tea, &c., planters, and growers, manufacturers, merchants, exporters, importers, traders, estate or commission agents, shipowners, engineers, shipping, insurance or advertising agents, bankers, bill discounters, &c.; to acquire and turn to account any tea estates or other landed property in Ceylon or elsewhere; as miners, smelters, and metallurgists; to construct and maintain rail and tram roads, reservoirs, warehouses, workshops, &c. The signatories are :— Shares.

| | |
|---|---|
| R. S. Corbett, Highmore, Streatham-common...... | 1 |
| W. H. Figg, Casewick-road, West Norwood...... | 1 |
| J. Stevens, Loch Goil, Romford.................. | 1 |
| S. Gray, 9, Tregathnan-road, Clapham........... | 1 |
| G. S. Lott, 97, Stormont-road, Clapham.......... | 1 |
| W. H. Bartlett, 24, Sudbourne-road, Brixton-hill.. | 1 |
| F. R. Carr, 9, Fenchurch-avenue, E.C............ | 1 |

The number of directors is to be not more than seven nor less than three. The first are C. Young, W. J. Smith, and W. H. Figg. Qualification, 50 shares Remuneration, £100 each per annum and £150 for the chairman.—*H. & C. Mail*, Jan. 1.

TOBACCO CULTIVATION AND CIGAR MANUFACTURE IN CEYLON.—In answer to the papers of the South India Expert, we have got some interesting, practical information from a few Ceylon planters with tobacco experience, which we shall collate and give in an early issue. One paper has still to reach us.

## SCIENCE AND TEA PLANTING.

The appointment of a scientific officer for the investigation of blights and other enemies of the tea plant has been under the consideration of the Indian Tea Association (London) for some time past. At the request of the Secretary of the Association a well-known authority on all matters connected with the cultivation of the plant and kindred subjects has given his views at some length. The opinions expressed are based on practical experience, and we have pleasure in placing them before our readers.

The correspondent referred to writes as follows:—

I shall endeavour to state as briefly as I can my opinions (based upon experience, observation, and study) upon the various points to which attention is directed in your letter. Of course, my remarks shall be entirely from a practical standpoint.

### OVER-CROPPING.

Under the methods in vogue for the last eighteen years or so, I cannot conceive any general danger to the tea plant from over-cropping. On the contrary, without resort to manuring as generally understood, I am confident that, given labour and ample judicious cultivation, the produce from the present bearing areas in India, as a rule, falls very far short of their safe cropping potentialities, or what were in all cases originally the natural continuous productive capabilities of the soil. I do not venture to say over-cropping is impossible, but with careful, judicious pruning, under the present ideas of plucking for quality as I take them, it would not be easy, and must, I should say, be extremely rare. The tea crop is neither a heavy nor an exhaustive one; and more nitrogen is undoubtedly restored to the soil in the shape of vegetation turned in (or that ought to be turned in) in cultivation, also as derived from the atmosphere, and from the rainfall, than in more temperate climates. The average crop of green leaves taken annually is extremely light compared with the weight of agricultural crops (exclusive of the proportion returned to the soil) in this country. Recent methods are supposed by some to be more of a strain upon the tea plant than the old. But I am of opinion it is otherwise. In cropping for quality, the cutting in pruning is, perhaps, heavier over a majority of the years, but on the other hand, excessive cutting should be less frequent, and never to the same extent necessary. The pruning, therefore, should not be more exhausting. Plucking for quality necessitates going round the gardens very frequently, leaving the bushes with a constant layer of young shoots and leaves on (as well as the mature leaves) to perform all the functions of the foliage, and is not so trying as the old method of plucking at intervals twice or three times as great, commonly shaving off the flush to the very buds, so to speak. The shock to and strain upon the bushes was greater under the old method, and the temptation to overtax them more where, within an equal labour force, quantity could be more aimed at, the market not being so fastidious to anything but appearance.

There is no doubt that in too many instances the yield of old concerns, notwithstanding considerable extensions, has not increased proportionately, but in some cases may have even fallen off; but this, I believe, is due (1), and I trust mainly, to the altered mode of plucking, which has been more and more for quality, (2) to blights, (3) on hill lands, to injudicious, reckless cultivation, and loss of soil from "wash," (4) injudiciously heavy pruning, and, perhaps, (5) not infrequently to greater scarcity of labour than formerly; or to some or all these causes combined.

### BLIGHTS.

The remedy for blights, of "selection of seed," as I understand to be recommended by Dr. Watt, is worthy of attention. Disease-resisting stock has accomplished something, at least temporarily, in regard to the vine and potato diseases for instance, after long periods of years, but it is problematical not only to what extent, but how long, this may take to benefit tea. At the best the remedy is not a very encouraging one for most proprietors in so far as it can now be of no benefit to the 450,000 acres or so of existing tea throughout India! I am able, however, to testify to having accomplished something by selecting the most vigorous and most likely to be disease-resisting seedlings, in the planting out of my Company's modern extensions.

### RED SPIDER.

In regard to red spider I have had at least fifteen years of sad experience in battling against it. The soil of the gardens I managed seemed predisposed to this blight and favourable to its propagation, and I could not imagine any gardens to be worse with it than they were for years. From 1880 to 1885 this pest was in fact a dreadful scourge; but it has been practically overcome by sulphur. I learn that Dr. Watt has no belief in the cure of blight by any application in that way, but after having applied sulphur in quantities of from three to twenty tons annually since 1880, the effectual cure of red spider, at a moderate cost per acre, is with me no longer a matter of opinion, but something that has in my own experience been successfully achieved. It has also to be taken into account that the sulphur not only proves a remedy for the red spider, but for many soils, a valuable manure.

The accompanying printed article will be found to explain the simple mode of application of the sulphur, and give further information in some detail. (The article referred to, entitled "Sulphur as a Cure for Red Spider in Tea," appeared in our issue of August 30, 1895.)

### OTHER BLIGHTS.

I am not, however, so hopeful of the eradication of mosquito blight by any similar application, because (1) the insect is winged and migratory, and (2) the blight is at its worst, and the remedy would have to be applied, at the season of the year when quality should be at its best. The study of the life history of this insect by several scientists does not seem to have afforded any clue as to a remedy. Some hold the opinion that the prevention of jungle fires by the Forest Department led to the increase of the pest on the gardens in the Terai. Be this as it may, it is not impossible that, like some other crop pests, it might be effectually treated in some intermediary stage in its haunts away from the tea plant.

I have no experience of the white ant, beyond what little I have seen of its ravages when on visits to Assam and Cachar.

There are many other parasites and blights, but those I am familiar with do little harm, are amenable to treatment and easily kept in subjection, or do not spread. One of these more frequently alluded to of late, a white-thread fungus, I have seen a little of, and noticed making its appearance in different parts of the Dooars during my last trip to that district in 1893. I am inclined to attribute this pest to defective preparation of the ground prior to planting, dampness of soil, or excess of trade.

Undoubtedly a great safeguard against the ravages of parasites and blights is to maintain the plants in a healthy and vigorous condition. Still I believe that, wherever there is a large area under any crop, irrespective of the exhaustion of the plants, blights in some measure are sure to follow in time. But it stands to reason that with ill-conditioned plants—from whatever cause—blights must prove the more disastrous.

### MANURING.

The subject of manuring is a wide one, and an essay, if not a volume, would be required to do any justice to it. Material is often not available; and the fertilising properties of manures are difficult to preserve and apply in India. The transit of local supplies is in most cases too costly to be thought of. Besides, frequent labour is not available to any extent for manuring. In most instances all that is practicable over wide areas is "green manuring," and, as material and labour admit, top-dressing with leaf mould, such soil as is available, or leaves and twigs. Upon soil of fair quality, yielding crops of the average present day amount, I am not of opinion that for the permanent rude growth and health of the plants more is necessary. But beyond this the great desideratum would be to be enabled to manure *for quality*. This can never be accom-

plished successfully or profitably until it be ascertained what elements are lacking for quality in different soils. In this direction, as far as I am aware, no progress whatever has yet been made. It is the province of the agricultural chemist to investigate this, and place practical planters in a position to supply the elements wanting for quality in each case. Nothing can be of more vital importance to the tea industry generally than such discoveries. Nitrogen may mainly be supplied by "green manuring," but the mineral elements (which I believe will be found essential for quality) must I fear be provided or replenished, principally by means of artificial manures. Nitrogen supplied by "green manuring" will doubtless also render some of the dormant mineral constituents in the soil available for plant food. I am not, however, hopeful of artificial manures ever being profitably applied to the tea plant unless for the production of quality.

"GREEN MANURING."

"Green manuring" has very much to recommend it. I have practised this to great advantage, without the aid of leguminous plants specially cultivated for the purpose, and most extensively (prior to 1877) before the extensive introduction of machinery, when a large force of strong coolies were freed from manufacture, and otherwise available in the Darjeeling district, during October and November. As in much else, I need hardly say, results mainly depend upon the time and manner in which the operations are performed.

LEGUMINOUS PLANTS.

The fertilising properties of the leguminous plants have long (even from the time of the Romans) been well known in agriculture. From what source this class of plants derived these properties has also long been the subject of much scientific investigation and controversy. But some seven or eight years ago it was demonstrated beyond doubt (what was long disputed) that the *leguminosæ* have, under certain conditions, the power of assimilating the nitrogen of the atmosphere. It must doubtless be wise therefore to have the attention of planters generally directed to the benefits to be derived from this class of plants. But so far as the application of the *leguminosæ* by "green manuring" to tea is concerned, I look upon it as a purely practical and economic question. The tea industry, apart entirely from any export of its own, may have the full benefit of the results of those scientific investigations, as well as others still being carried out in Germany and elsewhere, in the inoculation of soil to secure the conditions favourable to the fullest development of the fertilising properties of the *leguminosæ* being always present.

The leguminous plants commonly cultivated in this country, such as lucerne, vetches, lupin, sainfoin, peas, and beans, grow too high to be used to the desired advantage with tea, unless the proposal be to go in for a regular "rotation of crops" in the proper sense of the term, by allowing a portion of the garden to remain "fallow" and uncropped in rotation every three, five, seven, or other interval of years. But this would seem to me an extreme measure (to be contemplated with satisfaction by few), which is to be avoided, and I believe, can be avoided by the judicious, skilful treatment of a garden. No doubt, ill-conditioned plots would lend themselves with great advantage to fallowing and special treatment. The clovers, however, are a low-growing plant, and on that account more suitable for a tea field being cropped, but land under them (at least red clover for a length of time is found subject to "clover sickness," and as fertilisers the clovers, as a rule, I do not esteem so highly as some of other leguminous plants. There is this to be said, however, that leguminous trees, shrubs, plants, and even weeds are much more abundant in the East than in this country, and some of the indigenous varieties may form a low sward and be most advantageously used for "green manuring," without having recourse to putting the tea under fallow. It of course remains a question to be determined only by trial and experience, how far the cultivation of the *leguminosæ*—certainly any that are exotic—for tea will pay, unaccompanied by anything like the profitable feeding of cattle for the market, which in most cases is out of the question. I believe the low growing indigenous kind will be found the most suitable and effective.

Land impoverished by native cultivation, and doubtless much other land, would benefit immensely by being put under leguminous plant and allowed to lie fallow some years before being planted with tea. I can again testify as to the wonderfully good results from fallowing for three years under such vegetation as chanced to grow. But how many will have the patience or incur the expense of such a delay, however urgent under certain conditions?

Exhaustion, or a poor condition of plants, may in some instances render desirable or even force the following of bearing gardens, by section in rotation on a seven, five, or three years "shift"; and over-production may soon render such a course the less unpalatable; when the best fertilisers among the *leguminosæ* may be used with less restriction and to full advantage.

CULTIVATION.

To most it will indeed be something novel to hear of tea gardens actually suffering from being kept over clear of weeds! We have heard of gardens in Ceylon being kept perfectly clear at all times by hand-weeding, but I am confident that in India such supererogation must be extremely rare. The extreme of cultivation with us may be taken to amount to eight or nine forkings or hoeings during the year—that is once in winter, and once a month during spring, summer, and autumn. In this way, I should say, there will be more vegetation turned into the soil than by only turning it in once, twice, or thrice a year. In the former case the harm is more likely to be done by turning over and "poaching" the soil in very wet weather. Wet cultivation is sure to aggravate and may even induce blight. When high cultivation is aimed at, a great drawback is, the hoeing must be done not always in the weather most favourable for it, but when labour is available. It would be safer and preferable as a rule, therefore, to cultivate a sward of the low-growing leguminous plants to fertilise the soil, and at all times eschew hoeing or forking in really wet weather.

SCIENTIFIC OFFICER.

As I have for thirty-five years followed the progress of agricultural scientific research to the best of my opportunities, and, since it has been mooted, taken a keen interest in the proposed appointment of a scientific officer for the tea industry, I may be permitted to make a few remarks on so important a subject.

From all I have learned previously, the proposed expert was to be appointed mainly to make a scientific investigation into the processes of manufacture and ascertain the deficiencies or otherwise of various soils and their needs in the form of manure. This has always been held out as the pressing necessity, and I believe wisely so. For such investigations a thorough knowledege of analytical chemistry, and as far as possible also of bacteriology, is indispensable and some experience of practical agriculture and plant life would, of course, likewise be advantageous. The great tea industry ought undoubtedly to employ such a scientific officer, *and permanently*. These qualifications (or almost similar), and also "a knowledge of the chemistry of plant life," have been recommended by Dr. Watt formerly. If a second expert be really in contemplation for blights specially, then one with "a thorough training in agriculture" (but better a horticulturist, I should say) "who has examined into the diseases of plants" might be suitable, no doubt. Such a man as the late Mr. Thomson, viticulturist, of Clovenforks, or of the Scottish head-gardener type (such as I had the privilege of consulting about red spider blight in 1877-78), men of valuable practical experience and great intelligence and sagacity would be of vast benefit for blights if the industry could secure their services for a few years. Or from such in conjunction with a competent agricultural chemist the best results might be expected.

I am not of opinion that there is much need of an expert specially for blights All that is required are observant, thoughtful, practical men, methodical, with a scientific cast of mind, and withal, and above all, enthusiastic. It must be admitted that most gardeners and agriculturists sent out to tea commerce perhaps with too little home experience for this task; still I doubt not there are several men connected with tea in India, if set aside to devote their entire time and thought to the matter, would be able in time to accomplish much. In addition to the agricultural chemist one such might even be deputed to each group of blighted districts.

There is, I learn, no hope held out of pecuniary aid from Government. Upon the whole, this may not really be a disadvantage, because Government support would reasonably be accompanied by Government control. If there can be absolute certainty about anything regarding this appointment it is this: The Tea Association should engage the most competent and suitable scientific officer procurable, and if such be secured, there is no one in India I have heard of competent to "supervise his work." He should only be under the direction of sound business men financially, and must be allowed a free hand in regard to his scientific investigations, being at the same time led clearly and fully to understand that the success of his efforts to benefit the tea industry shall be to his own advantage and *vice versa*. But the Association must not be too impatient of results. No one can doubt that that the scientific officer will always be very glad to receive suggestions and information from anyone Government may depute, for the good of the industry, to interest himself in and furnish information bearing upon the investigations. But, depend upon it, the control or supervision of the scientific researches of a competent officer, as suggested, could hardly fail to mar the efficiency of, if not wreck the undertaking.

Neither can I agree that the use of the Government laboratories would be advantageous as a rule. The scientific officer must have his own laboratories, though only a small bungalow or part of one. It would be impossible, for instance, to obtain any reliable results in the chemical investigation of the processes of manufacture unless the laboratories be close at hand. Government would no doubt place their laboratories and apparatus at the disposal of the scientific officer if necessary for any special investigation.

In regard to a suitable "scientific officer," laboratory accommodation, apparatus, and instructions to be framed to insure continuity of research in the event of inevitable changes, I believe the Association could not do better than consult Dr. John Augustus Voelcker (Ph. D., B.S., &c.), consulting chemist to the Royal Agricultural Society of England, who devoted thirteen months throughout India to an inquiry into its agriculture (mainly in its scientific bearings), and the qualifications, equipment, and appointment of agricultural chemists for the country.—*H. and C. Mail*, Jan. 1.

## COFFEE:—THE ONLY WAY TO IMPROVE OUR COFFEE STRAINS.

### ADVICE FROM DR MORRIS, DIRECTOR OF THE ROYAL KEW GARDENS.

The following is a letter in answer to some queries of ours, forwarded through a friend, regarding the advisability of replacing the disease-stricken coffee seed of South India with new and preferably wild strains. Our readers will note that, barring the valuable suggestion of beginning the experiment with first rate Blue Mountain seed (which has already been acted upon in a careless, haphazard manner), the gist of the sound advice Dr. Morris gives us is identical with that which appeared in our issue of December 5th from the pen of Mr. J. Cameron, of Bangalore.

There is one thing we would strongly impress upon our readers, and that is, the improvement of our strains is *surely a planter's matter.* It is a work in which everyone of us can take our part, though the first steps, *i.e.*, the introduction of first rate Blue Mountain coffee, might fitly be undertaken by the United Planters' Association.

Writing under date of 14th December 1896, Kew, Dr Morris says:—

The suggestion [*i.e.* about going back to the wild stock.—ED] is similar to many that reach me from various parts of the world. It is based really on a misapprehension of the means adopted by highly skilled horticulturists in working up improved stocks of cultivated plants. Instead of going back to the original wild stocks these people start from the best of those now existing and by careful selection and cultivation produce strains of the highest merit.

Although plants affected by disease may have deteriorated individually, yet in a large area there would be found numerous individuals of healthy constitution and quite capable of responding to the influences of improved cultivation and a wise and skilful selection. If you go back to the wild stock you have to traverse a fresh all the graduations of improvement already obtained, with possibly no better result than at present.

The only way to really improve the present coffee plant is, as you [our friend, who forwarded the letter.—ED.] suggest, to carry on systematic experiments extending over several generations and seizing upon every indication of improvement to fix it at each stage until the desired result is obtained. To some extent, but not in a very scientific way, improvement had taken place in the character of the coffee cultivated in the Blue Mountains of Jamaica. The plants are prolific, bear large beans of good colour, and the produce is possibly the best of any appearing in European markets. It often fetches 142/ per cwt. The quantity is small owing to the difficulty of obtaining forest land suitable for extending the cultivation.

If the planters of Southern India were to import selected seed from the Blue Mountains of Jamaica the results would be much more satisfactory than starting with really wild plants. They would then start where the Jamaica people have left off.

We always take up any new species or varieties of coffee that we meet with, and we distribute plants for purposes of experiment—in fact to furnish the raw material for planters to work upon if they like. *Coffee stenophylla* is a case in point. This is very near *C. arabica* and may indeed be a wild form of it. I do not suppose, however, that planters will take the trouble to work at the wild plant for, say, twenty years in order to get an improved variety. Experiments on a small scale are worthless. *It is purely a planter's matter, to be solved only on the estates where coffee is largely grown.* [The italics are ours. —ED.] Only one plant in ten thousand may show any characteristics of a desirable character, the same as in the sugar cane. Although some hundreds of thousands of seedling canes have been grown, only two have shown any special characters of a valuable kind.

If it is proposed to import Blue Mountain coffee seed from Jamaica, correspondence might be opened with Beresford S. Gosset, Farm Hill Coffee Plantation, Hagley Gap P. O. Jamaica. He is a reliable man who has excellent coffee fields.—*Planting Opinion*, Jan. 9.

## JAMAICA FRUIT IN LONDON.

Considerable interest was exhibited yesterday in Covent Garden in connection with the sale by auction of the first consignment of Jamaica fruit received direct from the island in this country by the steamer Port Victor. The market was unusually crowded, the leading wholesale dealers in Manchester, Liverpool, and Glasgow being represented. An inspection of the fruit, which was packed in cases of two sizes, showed that

in the majority of instances the fruit had arrived in the London Docks in a ripe and sound condition. It is considered certain, that with a regular fleet of steamers between London and Jamaica, the new method of direct importation will result in material benefit both to English growers in the island and to purchasers at home.

The Central News says the whole of the cargo of the steamer Elderslie, consisting of about 9,000 cases of oranges, &c., was seized yesterday in the South-West India Dock by the medical officer of the Port of London as being unfit for food. The steamer is about to proceed to Newcastle, and by arrangement with the London port authorities she will throw her tainted cargo overboard at sea on her way to the Tyne. The failure is doubtless due to the fact that instead of picking the fruit in a green state it was allowed to attain a certain stage of ripeness before being packed; but no doubt is felt by experts that the experience will prevent the recurrence of such a fatal mistake.—*Daily Chronicle*, Dec. 31.

## TEA MARKET REPORTS FOR 1896.

Messrs. Gow, Wilson & Stanton furnish us with two very interesting Reports by this mail —one with reference to their business in Tea Company shares and the other their usual annual Report on Indian, Ceylon and Java teas. Both are sanguine in tone. Counting our Ceylon export for 1896 at 106 million lb. (it was in reality over 108 million) and that for India as likely to reach 146 million, they show that the tea consumption for the United Kingdom last year had increased on that of 1895 by 11 million or to a total of 201 million lb.; while Foreign and Colonial markets took 42, or 5 million more than in 1895. This grand total of 243 million lb. for Indian and Ceylon teas taken off in 1896, does not leave much of a surplus out of the exports and as cheap tea directly tends to increase consumption, there is every reason to anticipate a steadily improving demand both from the American and European continental markets, while Australasia is not likely to disappoint us. The total consumption of tea in the mother country is now 226,000,000 lb. equal to 5·73 lb. per head; but between this and the Australasian ratio of over 7 lb. per head, there is a handsome margin still for expansion. All this expansion both in Europe and America (not to speak of minor countries,) will be required to overtake an increased crop in India and our own 120, or even 117½ million lb. in 1897, leaving out of view what Java and China may do. The percentages of the tea used in the United Kingdom in 1896 were as follows:—Indian 54; Ceylon 35; China down to 9, and other kinds 2 per cent.

## PLANTING NOTES.

NILGIRIS.—*Crop* ripened up in torrents of rain in November and December up to Xmas day. The rush in such inclement weather could not be kept in hand. A good deal is in. A good deal is on the ground on low lying estates and not much more to come in. Outturn very disappointing and estimates not to be realised. Leaf showing up. Pruning begun on stripped fields. Health good, but cholera at the foot of the hills keeps out influx of coolies. Grain rates unjustifiably high.

SHOLUR.—The year closed with 55·66 inches rain, 3·55 of which fell in December. The weather has been unusually warm since last report, the day temperature in shade between 6 a.m. varying from 50° and 64°. Tea still continues to flush slightly—and as I write prospects of more rain—which will be good for pruned tea and an early start next year if happily it is not nipped by frost. Labour plentiful and prices of grain steady.

COONOOR, Jan. 8.—Weather has now set in clear and cold, and there is more than a suspicion of frost in the air. The rainfall for December totalled 18 inches, against an average of past four years of not quite 6½ inches. Total for year 70·69 in., which is just about an inch above average. Fears of a wet spring may thus be put aside. Lower elevation estates have got in quite half their crops, which, on revised estimates, is coming about up to the mark. Leaf-disease showing up in a nasty way. Generally speaking crops are poor and much under the average, as it seems is general all over South India. Tea has stopped flushing or very nearly so. On the whole the crops of tea in the district have been good and above the average, though the first half of the year was so bad. Labour plentiful, health indifferent. Grain rates about the same but still high, *i.e.*, ragi 18 measures instead of the old 26 measures per rupee.—*Planting Opinion*, Jan. 9.

## THE RAGALLA TEA ESTATES, CO. LIMITED.

Proceedings at the second annual General meeting of shareholders, held at the offices of the company, 39, Lime Street, London, on Tuesday, 29th December, 1896, Mr. C. E. Strachan presiding.

After the notice convening the meeting had been read, the Chairman, rising to move the adoption of the report and accounts, said:—

Gentlemen,—The report and accounts have been in your hands for some days, and have no doubt had your careful consideration. I now beg to move their adoption, and, in doing so, I feel that you will expect to hear something from me regarding the progress that has been made, and our prospects.

You will see by the Report that a considerable expenditure has been incurred in what we call permanent improvements: these are of great extent, specified in the Report and need not be repeated. Our aim has been to bring the Estates into a perfect state of cultivation as soon as possible, and to do so it has been necessary to expend a good deal of money. I may say that we have broken the back of the work; we have now completed the planting of all the Coffee land in Tea, have drained the whole of the Estates, repaired buildings and erected new ones, planted timber clearings for future fuel purposes, and carried out a host of other necessary works, and we shall, without doubt, benefit by this expenditure later on. Dealing with the Report itself there has been nothing of moment in the conduct or result of our business for me to comment upon. Our Tea has sold for 9½d. per lb. nett against 8¾d. per lb. last year. The quality of the Tea has improved, owing to the greater age of the bushes, and also to better machinery, and we hope, when our new Factory is finished, to see a further improvement in quality. Our Coffee Crop has turned out very short of estimate, owing to a bad attack of bug. I am glad to say we are less dependent on this uncertain crop now as our Tea is coming on so satisfactorily and taking its place. We were unfortunate in losing a gang of coolies, and this reduced our yield of Tea. I am glad to say they have been replaced, and we are advised that the Estate is full-handed again.

During the year we issued a further £8,000 of our authorised Capital for the purpose of building a new Factory and providing for Capital expenditure—the amount was all subscribed by our Shareholders.

I am glad to say the Factory is making good progress, and we hope to have it in working order early in April.

We also purchased the Kelburne Estate for £35,000—raising the money by an issue of 7,000 Preference Shares of £5 each, all of which were taken up. We consider this a very good purchase, and likely, later on, to add largely to our income.

As to the future of our products, without wishing to prophesy, I can only say that the prospects of

British-grown Tea look as well as ever; and, although clouds appear on the horizon from time to time, and we are threatened with competition from other countries, I fully believe we shall be able to hold our own.

As to the accounts they have been audited by your excellent Auditors, and I need say nothing further about them except to ask you to be content with the modest dividend of six per cent. for the year, and, gentlemen, I hope I have your approval, as I have that of my colleagues on the Board, when I ask you to be satisfied with dividends not exceeding six per cent. until such time as we have built up a substantial Reserve Fund, which, with the progress we are now making, should not be long, and we shall then be in a position to treat you more liberally.

Mr. HANNEN seconded the adoption of the Report, which was carried unanimously.

The CHAIRMAN also proposed that a final dividend of Four shillings per Share, free of Income Tax, be paid on 1st January in respect of the 3,100 Ordinary Shares fully paid as at 31st July, and this, being seconded by Mr. Harwood, was also agreed to. This, with the previous dividend paid in July, will make a return of Six per cent. for the year.

Mr. M. P. Evans, who retired by rotation from the Board, was re-elected as a Director.

The Auditors, Messrs. Fuller and Wise, were also re-elected.

The proceedings closed with a vote of thanks to the Chairman and Officers of the Company.

C. E. STRACHAN, Chairman.

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## MARKET FOR INDIAN TEA SHARES, THE YEAR 1896.

(From *H. and C. Mail*, Jan. 1.)

The early part of the year which is just drawing to a close was, so far as Indian tea companies' shares are concerned, much on a par with that of 1895. During the latter half of 1896, value of shares have kept fully steady, any declines which have taken place in the less marketable shares having been more than compensated for by the rises in the most favorite among the more marketable ones, especially in those of some of the older established companies. Among some of the more recent (especially the *preference*) issues, however, which were, at first, rather "boomed,) there has laterly been a little set back.

The increasing interest of the public in tea planting investments, which was the feature of 1895, has been more than ever noticeable in 1896, and, as already suggested, this has been further stimulated by the difficulty now experienced by investors in obtaining a reasonable rate of interest on their money. Even now, despite the rise in values, a careful investor in tea shares can obtain, with reasonable security, a yield of six and half per cent on Ordinary and four and half per cent on Secured Preference shares of these concerns.

The Rupee exchange, though latterly a little higher, has not, on the whole, advanced sufficiently to affect materially the results of working, though cost of production will undoubtedly be slightly enhanced for 1896.

The high prices of food stuffs in Bengal and elsewhere will, in those districts where rice has to be imported, tell against the planter, but it must not be overlooked *per contra* that famine in the labour-recruiting districts will render the task of obtaining fresh coolies for tea districts much less onerous and less costly.

Although the creation of entirely new gardens has not been very marked, amalgamations of one estate with another and the absorption of smaller estates by large corporations has gone on apace, so that the demand by investors for a larger selection of readily-negotiable and officially-quoted tea securities has been amply supplied. We have to chronicle the formation of the following reconstructions in, datal order, during 1896:—

The British Darjeeling Tea Company (the late Mr. Lloyd's Darjeeling estates.)

The Consolidated Tea and Lands Company (Glasgow), combining the estates of the old private North Sylhet and South Sylhet companies.

The Darjeeling Consolidated Company combining four old and well-known Calcutta companies.

The Empire of India and Ceylon Company, composed of the Borjuli and Dapoota properties in Assam, and some Dooars and Ceylon properties.

The Amalgamated Tea Estates Company (Glasgow) —Formed of the astates of the old Land Mortgage Bank of India, of the well-known Darjeeling estates of the late Dr. Brougham, the Hathibari property in Assam, etc.

Besides several smaller reconstructions, which space does not admit of our recapitulating.

In addition to these the Makum Company has issued £25,000 of Five per Cent. Debentures, the Borelli Company issues £10,000 Five per Cent. Preference capital to provide for improvements, and the Moabund Company reconstructs as from next year, with a total capital of £300,000, divided equally into Five per Cent. Preference and Ordinary Shares, of which one half is now issued.

We append our usual abstract statement, showing in the case of the best-known shares the range of values during the year. This again shows a very remarkable rise in values:—

| | YEAR 1896. | | | | Rise | Rise |
|---|---|---|---|---|---|---|
| | Jan. | Bot. | Top. | Dec. | per Share. | per £100* |
| Assam .. | 48 | 48 | 62 | 60 | 12 | 60 |
| Attaree Khat .. | 6¾ | 6¾ | 10 | 9¼ | 2½ | 50 |
| Borelli .. | 8½ | 8¼ | 10 | 9½ | 1 | 10 |
| Brit. Indian .. | 3½ | 3½ | 4½ | 4½ | 1 | 20 |
| Brahma .. | 10¼ | 10¼ | 14 | 12½ | 2¼ | 45 |
| Cach. and D'rs Ord. | 9¾ | 9¾ | 12⅛ | 11¾ | 2 | 20 |
| Cach and D'rs *Pref.* | 12¼ | 12 | 13¾ | 13¼ | 1 | 10 |
| Chargola Ord. .. | ⅞ | ⅞ | 1¼ | 1⅛ | ¼ | 25 |
| Chargola *Pref.* .. | 1⅜ | 1⅜ | 1⅝ | 1½ | ⅛ | 12½ |
| Chuba Ord. .. | 5¾ | 5¾ | 7¼ | 7 | 1¼ | 25 |
| Chuba *Pref.* .. | 6¾ | 6¾ | 7¼ | 7½ | ¾ | 15 |
| Dejoo .. | 8 | 8 | 10½ | 10 | 2 | 20 |
| Dooars Ord. .. | 17 | 16¾ | 21 | 19 | 2 | 20 |
| Doors *Pref.* .. | 17 | 17 | 18¾ | 18 | 1 | 10 |
| Doom Dooma .. | 15¾ | 15¾ | 20½ | 19½ | 3¾ | 37½ |
| E. Ind. & Cey. *Pref.* | 12¼ | 12¼ | 14 | 13 | ¾ | 7½ |
| Indian of Cachar | 7 | 6⅛ | 7 | 6½ | —½ | —5 |
| Jhanzie .. | 7⅛ | 7⅛ | 9 | 8⅝ | 1½ | 30 |
| Jokai Ord. .. | 15 | 15 | 19 | 18 | 3 | 30 |
| Jokai *Pref* .. | 14½ | 14¼ | 17 | 16½ | 2 | 20 |
| Jorehaut .. | 48 | 48 | 62 | 58 | 10 | 50 |
| Lebong .. | 14 | 14 | 18½ | 17½ | 3½ | 44 |
| Lungla Ord. .. | 10¾ | 10½ | 13 | 12¾ | 2 | 20 |
| Lungla *Pref.* .. | 13 | 13 | 14½ | 13¾ | | 7½ |
| Majuli .. | 8¼ | 8¼ | 8⅞ | 8⅝ | ⅜ | 3¾ |
| Moabund Ord. .. | 2 | 2 | 2¾ | 2¾ | ¾ | 75 |
| Moabund *Pref.* | 1⅜ | 1⅜ | 2 | 2 | ⅝ | 62½ |
| Mungledye *Pref.* | 2⅝ | 2⅝ | 3 | 2¾ | ⅛ | 5 |
| Scottish Assam | 10 | 10 | 11¾ | 10¾ | ¾ | 7½ |
| Oinglo Ord. .. | 10¾ | 10½ | 14¾ | 12¾ | 2 | 20 |
| Singlo *Pref.* .. | 13¼ | 13¼ | 15¼ | 13¼ | — | — |
| CEYLON SHARES (*for comparison*). | | | | | | |
| Ceylon T. Plant Ord. .. | 25 | 25 | 31 | 29 | 4 | 40 |
| Ceylon T. Plant *Pref.* .. | 17 | 17 | 18 | 10 | 1 | 10 |

* NOTE.—*i.e.*, per £100 stock at par.

We quote, to supplement the above and the extended tables lately published by us, certain figures published by our local evening contemporary:—

### THE CEYLON SHARE MARKET IN 1896.

LIST OF THE COMPANIES FLOATED IN LONDON IN 1896.

| | | Paid-up Cap |
|---|---|---|
| Nuwara Eliya Estates Co. | .. | £137,000 |
| Imperial Estates Co. | .. | 90,000 |
| Kintyre Co. | .. | 65,000 |
| Central Tea Co. | .. | 35,070 |
| Ederapolla Tea Co. | .. | 22,000 |
| Dimbulla Valley Tea Co. | .. | 150,000 |
| Poonagalla Tea Co. | .. | 17,500 |
| Korale Tea Estates Co. | .. | 56,000 |
| Midland Tea Plantations | .. | 20,000 |
| Highland Tea Co. | .. | 32,000 |
| Galaha Tea Co. | .. | 110,000 |
| Burnside Tea Co. | .. | 17,600 |
| Associated Estates Co. | .. | 150,000 |
| Total | | £902,170 |

LIST OF THE COMPANIES FLOATED IN COLOMBO IN 1896.

| Company. | Acreage. Cultivated. | Acreage. Total. | Capital. Nominal. | Capital. Paid-up. |
|---|---|---|---|---|
| Ankanda | ..139 | 337 | 100,000 | 75,000 |
| Stinsford | ..356 | 438 | 500,000 | 300,000 |
| Kalutara | ..561 | 1,085 | 500,000 | 400,000 |
| Rayigam | ..653 | 1,200 | 1.000,000 | 425,000 |
| Knavesmire | ..486 | 589 | 500,000 | 415,000 |
| Rondura Valley | ..350 | 550 | 500,000 | 300,000 |
| Palmerston | ..463 | 493 | 1,000,000 | 450,000 |
| Penrhos | ..540 | 820 | 500,000 | 150.000 |
| Ceylon Tea and Coconuts | ..800 | 1,190 | 500,000 | 250,000 |
| Kanapediwatte | ..357 | 418 | 340,000 | 334,000 |
| Walton | ..227 | 520 | 500,000 | 160,000 |
| | | Total.. | 5,940,000 | 3,259,000 |

| | No. of Companies. | Nom. cap. | Paid-up Capital. |
|---|---|---|---|
| | | R. | R. |
| Floated in Colombo 1895 | ..18 | 8,860,000 | 5,848,500 |
| " " " 1896 | ..11 | 5,940,000 | 3,259,000 |

The larger number of Companies, it will be found, have their stocks at a lower quotation now than were current twelve months ago. Out of 50 local companies 32 are now lower than then, 17 are higher, and 5 are unaltered. And those which are higher are only very little higher. The greatest improvement in rates is shown by Wanarajah, the shares in which were R1,150 in January 1896, and are now R1,500 and R1,575. Next to that fine Company come Kirklees, Agraouvah, and Glasgow, and in the order named, all improving properties at a high premium, but said to be likely to go higher still. For the sake of comparison we append a tabular statement, showing the prices current for them at the beginning of January, 1897, and at the beginning of January, 1896, separating those which are now higher from those which are lower, and giving those which are unchanged also separately, as follows:—

| Ceylon Companies. | Amount paid per share. | Prices. Jan. 1st, 1896. | Prices. Jan. 1st, 1897. |
|---|---|---|---|
| | R. | R. | R. |
| HIGHER. | | | |
| Agra Ouvah Estates .. | 500 | 1125 | 1300 |
| Ceylon Provincial Estates | 500 | 625 | 685—690 |
| Glasgow Estate .. | 500 | 1275 | 1400 |
| Hapugahalando Toa .. | 200 | 350 | 385 |
| High Forests Estates .. | 500 | 620 | 625—630 |
| Do part paid .. | 100 | 200 | 220—225 |
| Horrekelly Estates .. | 100 | 70 | 90— 92·50 |
| Kirklees Estate .. | 100 | 150 | 185 |
| Mocha Tea .. | 500 | 1050 | 1175 |
| Ottery Estate .. | 100 | 127·50 | 130 |
| St. Heliers Tea .. | 500 | 1250 | 1300 |
| Wanarajah Tea .. | 500 | 1150 | 1500—1525 |
| Yatiyantota Tea .. | 1000 | 6000 | 7750 |
| Colombo Apothecaries .. | 100 | 97·50 | 109 |
| Colombo Hotels .. | 100 | 275 | 322 50—325 |
| New Colombo Ice .. | 100 | 150 | 180 |
| Public Hall .. | 20 | 15 | 17·50 |
| LOWER. | | | |
| Castlereagh Tea .. | 100 | 160 | 150 |
| Claremont Estates .. | 100 | 100 | 75—80 |
| Clunes Toa .. | 100 | 200 | 170 |
| Clyde Estates .. | 100 | 125 | 120 |
| Delgolla Estato .. | 400 | 480 | 360 |
| Doomoo Tea .. | 100 | 125 | 115 |
| Drayton .. | 100 | 175—200 | 170 |
| Eadella Estate .. | 500 | 675 | 560 |
| Eila Tea .. | 100 | 175 | 155 |
| Estates of Uva .. | 500 | 725 | 685 |
| Great Western Tea .. | 500 | 1000 | 950 |
| Kelani Tea Garden .. | 100 | 120 | 102 50 |
| Nahavilla Estates .. | 500 | 1000 | 900 |
| Roeberry Tea .. | 100 | 110 | 105 107·50 |
| Ruanwella Tea .. | 100 | 130 | 110 |
| Talgaswela Tea .. | 100 | 82·50 | 50—55 |
| Tonacombe Estate .. | 500 | 750 | 700 |
| Udabage Estate .. | 100 | 110 | 105 |
| Udugama Tea and Timber | 50 | 40·50 | 30 |
| Upper Maskeliya Estates | 500 | 1000 | 830 |
| Uvakellie Tea .. | 100 | 132·50 | 120 |
| Vogan Tea .. | 100 | 110 | 108·50 |
| Weoya Tea .. | 100 | 330 | 317·50 |
| Adam's Peak Hotel .. | 100 | 105 | 100 |
| Bristol Hotel .. | 100 | 112·50 | 100 |
| Ceylon Genl. Stm. Navigation .. | 100 | 90—100 | 85—90 |
| Ceylon Spinning & Weaving | 100 | 50—60 | 40 |
| Colombo Fort Ld. & Building .. | 100 | 105 | 95 |
| Galle Face Hotel .. | 100 | 105 | 103·50 |
| Kandy Hotels .. | 100 | 100 | 90 |
| Nuwara Eliya Hotels .. | 100 | 100 | 95 |
| Wharf and Warehouse .. | 40 | 90 | 85 |
| UNALTERED. | | | |
| Beaumont Tea .. | 100 | 130 | 130 |
| Ceylon Hills Estates .. | 100 | 107·50 | 107·50 |
| Maha Uva Estate .. | 500 | 1025 | 1025 |
| Yataderia Tea .. | 100 | 400 | 400 |
| Dunkeld .. | 500 | 1050 | 1025—1050 |

The following table gives the rate per cultivated acre at par and the rate at present quotations:—

ORIGINAL CAPITAL AND ACREAGE PRICES.

| | Par. | Per cult. acre at par. | Price. 1897 | Per cult. acre today. |
|---|---|---|---|---|
| | | R. | R. | R. |
| Agra Ouvah .. | 500 | 770 | 1,225 xd. | 1,886 |
| Castlereagh .. | 100 | 471 | 150 | 706 |
| Dunkeld .. | 500 | 392 | 1,050 | 823 |
| Eila .. | 100 | 451 | 155 | 676 |
| Maha Ouvah .. | 500 | 435 | 1,025 | 891 |
| Mocha .. | 500 | 472 | 1,175 | 1,109 |
| Glasgow .. | 500 | 523 | 1,400 | 1,464 |
| Yataderia .. | 100 | 220 | 400 | 880 |
| Wanarajah .. | 500 | 390 | 1,525 | 1,170 |
| Clunes .. | 100 | 400 | 170 | 680 |
| Kirklees .. | 100 | 250 | 185 | 462 |
| Tonacombe .. | 500 | 473 | 700 | 662 |
| Nahavilla .. | 500 | 214 | 900 | 385 |
| Great Western | 500 | 597 | 950 | 1,039 |
| High Forests*.. | 500 | 900 | 630 | 1,134 |

* This Company holds 952 acres finest virgin forest valued at R150 an acre, but no allowance has been made for this.

With the exception of Agraouvah it can hardly be said that the above rates are high.

Dividends 1895.

| | per cent. | | per cent. |
|---|---|---|---|
| Castlereagh | .. 15 | Nahavilla | .. 20 |
| Clunes | .. 15 | Talagaswella | .. 7 |
| Drayton | .. 15 | Tonacombe | .. 12 |
| Eadella | .. 11 | Upper Maskeliya | .. 18 |
| Eilas | .. 13 | Uvakellie | .. 10 |
| Estates of Uva | .. 8 | Weoya | .. 25 |
| Great Western | .. 18 | Yataderia | .. 45 |

## CONCERNING TEA.

### AN AMUSING PAPER.

(*From "Cornhill" for January, 1897.*)

Men's tea, I think, excels women's. Taking them as a whole one may say that no class of men make such good tea as undergraduates. Time is theirs; conveniences are to hand; and though they are young and ardent, haste and enthusiasm are bad form. Hence the brow has a dignity, a gravity, a composure worthy of it. There is something Asiatic about the reserved undergraduate—and today the conscious ones are all reserved—that stimulates tea to do its best for him. Later in life, when he has left the university and met a woman, the undergraduate becomes again an Occidental. These undergraduate tea connoisseurs are a development of the last few years. The invitation, 'Look in this afternoon and try my new Orange Pekoe,' to which grey walls, stained by the stress of centuries, now re-echo, would strike dismay to the heart of Cuthbert Bede. The average undergraduate as soon misses his tobacco as his tea,

He presides over the teapot with the air of Roger Bacon in his laboratory. Men always bring to a culinary feat this interested manner a little touched by mystery. To the woman it is natural; to the man it is exorbitant, and, partially, a lark.

Just as men are more intimately interested than women in

THE MAKING OF TEA,

so are they more subtly conscious of its merits. Women do not discriminate so intelligently. Tea to them is tea; tea to a man is China, or Indian, or Ceylon, or a blend. This is because men buy tea, as a rule, only when they are single, and women buy it with the housekeeping money. It is not for men but for families that polysyllabic brands are put upon the market. Individual men remain faithful to the costly varieties —'golden-tipped,' 'overland borne,' and the like. For women, for women, does Arabi Pasha beguile the tedium of exile by overlooking plantations in Ceylon; for women, for women, are artists employed to delineate aged grandmothers in the act of being reminded of the delicious teas of thirty years ago. That is why men who understand offer you better tea than women. They also send round the sugar and milk (connoisseurs care nothing for cream) for individual use. Women are only just learning that this is a more excellent way than to ask, 'Do you take sugar?'—'And milk?' Moreover, men—bless them for it—hate sugar tongs. There was a time when to refuse sugar was to write oneself High Church, but today the fashion is all against it; and yet, as a learned professor wistfully remarked, as guest after guest rejected the proffered bowl, 'Sugar is an excellent creature.' Milk is treated more leniently, but there is a lamentable tendency abroad to call it cream. The poet Wordsworth, by the way (speaking vicariously through Mr. Barry Pain), notes this point in the following simple ballad:

'Come, little cottage girl, you seem
To want my cup of tea;
And will you take a little cream?
Now tell the truth to me.'
She had a rustic, woodland grin,
Her cheek was soft as silk,
And she replied, 'Sir, please put in
A little drop of milk.'
'Why, what put milk into your head?
'Tis cream my cows supply;'
And five times to the child I said,
'Why, pighead, tell me, why.'
'You call me pig-head,' she replied;
'My proper name is Ruth.
I called that milk'—she blushed with pride—
'You bade me speak the truth.'

Plenty of milk and three lumps suggest nonconformity and blue-ribbonism. A slice of lemon implies that the drinker has been to Russia, or has read something of Tolstoi's. A man who likes tea neat is on the road to become a tea drunkard.

It must not be supposed that the art of appreciating tea is unknown to women. Nothing could be farther from the truth. I knew a venerable lady with whom tea making almost a religious rite. To her high-backed chair was first brought to the caddy—an inlaid casket—and deposited on a table beside her. Then from the depths of a china vase the key was extracted. My hostess assumed her spectacles, and, taking the key, turned it gravely, scooped out spoonfuls heaped high of the fragrant leaves—and they were very fragrant—and tipped them into the silver teapot proferred to her as by a royal cupbearer. Then she closed the lid, locked it, and handed the key to the attendant maid, who first bore it to its abode, and then, returning, carried the caddy reverently before her to its accustomed niche; while her mistress removed her spectacles, and relaxed the tension of her features until they once more shone with their natural benignancy. Women as a rule take tea more for its efficacy as a restorative than for sheer joy of drinking it. The charge has been brought against them that if left alone they would subsist entirely on tea and cake; and almost one believes it. Now and again we hear of attempts to dethrone tea. At Girton and Newnham, for example, cocoa has entered the lists as a rival. 'Cocoas' are said to be as well attended as 'wines' were in Verdant Green's day. Cocoas!

The wise tea maker is suspicious of elaborate paraphernalia.

THE BEST TEA IS MADE

with a black kettle on the fire. and an earthenware or china teapot. Copper kettles on tripods (heated by tins spirit stoves that hold too little spirit), silver teapoty and kindred refinements, do not help the leaf. Nor should strainers be desired. Tea requires no 'patents,' least of all a spoon resembling a perforated walnut, alleged to be unrivalled for the preparation of a single cup. A single cup! Who, if the tea were worth drinking, ever wanted but a single cup? Tea should be brewed of the right strength at the first instance, poured out at once into cups and reserved cups (or decanted into another teapot), and then remade. To burden the water with more leaves than it can attend to is thoughtless, and every drop that is afterwards added impairs the flavour of the liquor; notwithstanding the old Scotch lady who recommended a certain brand of leaf, because it 'had such a grip of the thir-r-d water.' Using too little tea is a fault never committed by the unwise and imprudent. The ordinary rule is one spoonful for each guest and one for the pot; but some brands go farther than others. A large pot is imperative. Few things in life are more saddening than the smallness of some people's teapots. The teapots should be wards for the reception of the leaves. Wetting the tea, as it is called, is a horrid habit; all the water that is required for each brew should be poured in at once on the instant that it boils. Water that has long been boiling is unprofitable and stale, and incapable of extracting from the opening leaf its richest essences. When there has been delay and it is impracticable to boil a full kettle again, it is well to pour into it from a high altitude a little fresh cold water. The more forcible the impact of this new water, the more is the old supply invigorated and fitted to cope worthily with the leaf. During the operation of emptying the kettle into the teapot the two vessels combine to produce a harmony, compared with which much of Beethoven is trivial, most of Mendelssohn beside the mark. The kettle should then be refilled and placed again on the fire, and after an impressive interval of some three or four minutes, spent by the boiling water within the teapot in the practice of supreme alchemy, the cups may be filled. 'At your ease,' sang the Emperor Kien Long in the poem that is painted on every teapot in China, 'at your ease drink this precious liquor, which chases away the five causes of trouble.'

TEA SELLING.

Tea confers a social rank of its own. A man who sells tea and nothing else occupies a rung in the Grundyan ladder far above him who sells tea and also sugar. Mincing Lane and Park Lane are often on visiting terms, and the scions of noble houses may be 'in tea' without shame. Similarly it is no disgrace to the daughters of Mayfair to serve tea in a West End shop. Some of them perform this action with an air of condescension that reduces the timid man to pulp. He begins with a feeling that he ought to carry the tray for them: he ends in an agony of anxiety as to the propriety of bestowing a tip. A shy friend once told me of the tortures he had suffered in these resorts. 'But I was revenged at last,' he said, 'for an old country fellow and his daughter who had been to the Academy,' or Maskelyne and Cook's, or somewhere, came in. When he paid the bill he left an extra sixpence in the patrician's hand. She fixed him with her refrigerating eye, and told him cuttingly that he had paid sixpence too much. 'That's all right,' he said heartily, in a stage whisper; 'that's for you, my dear. Buy yourself a ribbon with it.' I like this story, because tea has not done too much for the humourist. Compared with alcohol it has done nothing; although high-spirited people who adventure upon the golf links are grateful for

the opportunity of collocating the tea with the caddy. Fate is ever on the side of the punster; none knows better than the deviser of impromptu witticisms that all things come to him who waits. Lamb's remark to a schoolmaster, who was excessively given to the cup that cheered but never inebriated the poet Cowper, is among the neatest ever made. 'Tu doces,' said he ('Thou tea-chest').

TEA AND PICTURE GALLERIES.

For the full appreciation of afternoon tea there is no preparation to compare with a picture gallery. Certain social critics profess to have discovered that many art galleries exist solely in the interests of neighbouring tea resorts, and the memory of pictures sometimes found on their walls almost inclines one to accept the theory as a fact. It is a compliment to this divine fluid when the drinker is a little fatigued. But perhaps a cup of tea 'the first thing in the morning' is best of all. Then, pre-eminently, as Browning says, is it the time and the place and the loved one altogether. Tea in one's bedroom is a luxury which brings the humble person into line with the monarch and millionaire. It is akin to the luxury of staying away from church.

CHINA TEAS.

The happiest tea drinkers are they who have generous friends in China. No tea is like theirs. That inscrutable humourist, Li Hung Chang, left presents of priceless tea in his wake as he pass-d smiling through the West—tea of integrity hitherto unsuspected by the few persons whose glory it was to taste it. Among these was Mr. Gladstone, who is great among tea drinkers, and whose pleasant humour it is to speak of a cup as a dish. Dean Stanley was among the tea giants, and Dr. Johnson's prowess is a by-word. Hartley Coleridge was another colossus of the caddy. One who knew him tells that asking him on a certain occasion how many cups he was in the habit of drinking, the poet replied with scorn, 'Cups! I don't count by cups. I count by pots.' Once a man looks upon tea when it is green, his fate is sealed. Hyson and 'Gunpowder' between them have shattered many a nerve. Green tea numbers amongst its opponents Miss Matty. It will be remembered that when she set up her tea shop in Cranford, the whole country-side seemed to be out of tea at the same moment. 'The only alteration,' says the chronicler, 'I could have desired in Miss Matty's way of doing business was that she should not have so plaintively entreated some of her customers not to buy green tea—running it down as a slow poison, sure to destroy the nerves, and produce all manner of evil.' According to a story by Sheridan Le Fanu, one of the effects of green tea is to be visited o' nights by an impalpable monkey with red eyes. 'Punch,' with that happy, witty way it has, calls this state 'delirium teameus.' A cupful of green tea in a bowl of punch is a discreet addition.

BLENDS.

The commonest tea is black, and it is almost always a blend, even when the terms Congou and Souchong are employed. China, India and Ceylon—all three—are levied upon for these mixtures. Their description in the catalogues is worth study; indeed, all merchants' adjectives are worth study. A table of ten graduated qualities of black teas lies before me. The lowest priced var ety is 'pure and useful;' then 'strong and liquoring;' then 'strong and rich flavoured.' While the same kind, but two-pence dearer, is 'finer grade and very economical;' then 'splendid liquor;' then 'extra choice and strongly recommended;' then 'beautiful quality;' then 'soft and rich;' then 'small young leaf, magnificent liquor;' and, finally, at three shillings and fourpence, 'very choice, small leaf, a connoisseur's tea.' In another list I find 'very pungent and flavoury.' 'Syrupy' is also a hard-worked epithet. It would puzzle a conscientious merchant to fit any of these terms, even the humblest, to some of the tea that one now and then is forced to drink. But the British tourist is attracted not by tea as tea, but by tea with accessories. The late Mr. Arthur Cecil, the comedian, used to tell with great glee of the cannibal tea at Kew: thus—'Tea, plain, 6d.;' 'Tea, with shrimps, 9d.;' 'Tea, with children, 1s.' But tea that has such accompaniments is not to be run after by the epicure. Of all the public varieties the tea obtained at a railway station is perhaps the worst. The liquor served at those carnivals which are known to schoolboys as tea fights or bun struggles, is a close competitor, but being free, or inexpensive, it has an advantage over the station tea, which is costly. A question in an examination paper circulated among the students at a London hospital, asked the reader to 'give some idea of the grief felt by the refreshment room tea at never having seen Asia.' This sorrow might be shared by the station blend. Its only merit is its heat, but that usually is nullified by the brevity of the time limit allowed by the company for its consumption. Ship's tea, that is to say, tea in the cabin of the ocean tramp, would be worse only that at sea one is too hungry to care for refinements of flavour. The officers are said to discriminate between tea and coffee by taking the temperature of the milk jug. If hot, the beverage is coffee; if cold, tea.

COLD TEA.

Cold tea has its adherents no less than hot. One of the merits of cold tea is that, as the Bishop of Bedford would say, it 'looks like beer.' This to the ordinary member of society is a peculiarity which will cause no excitement, but the resemblance is of some value to publicans who do not wish to offend customers by not drinking with them, and yet do not care to be continually sipping alcoholic liquor. A glass of cold tea, on the other side of the counter, is to all intents and purposes a glass of beer. And, indeed, when one is really thirsty on a hot day, there is nothing more delightsome. But care must be taken that the liquor cools apart from the leaves. The most welcome drink that ever came to me was tea. We found it in a charcoal burner's hut in the New Forest. The charcoal burner was absent, and we left a sixpence blinking at the bottom of the empty basin. I hope he was satisfied, but if on his return he was half as thirsty as we, he would, rather than have lost his tea, have forfeited the savings of his life. For the time being our need was greater than his.

HISTORICAL.

The English history of the plant is comparatively brief. According to the popular statement tea was introduced into this country from Holland in 1666. D'Israeli, however, thinks the date earlier, because he once heard of a collector whose treasures included Oliver Cromwell's teapot. Concerning the beginnings of tea in this country there is a story told by Southey of the great-grandfather of a friend of his, who made one of the party that sat down to the first pound of tea that ever came to Penrith. They boiled it in a kettle, and ate the leaves with butter and salt, wondering wherein the attraction lay.

Tea, generally, met with opposition which nowadays is reserved for motor cars and new comic papers. In D'Israeli's account of its introduction, he says that Patin, a French savant, called the leaf 'l'impertinente nouveauté du siècle'—the seventeenth—and that Hahnemann (with the upper part of whose body we are so familiar by reason of its place in the shop windows of homœopathic chemists) described tea dealers as 'immoral members of society, lying in wait for men's purses and lives.' Colley Cibber wrote that tea was 'the universal pretence of bringing the wicked of both sexes together in a morning.' The indictment was indeed persistent and grave. Commenting upon an attack made in tea's early days by Duncan Forbes, an 'Edinburgh' reviewer wrote, in 1816, the following summarising passage: 'The progress of this famous plant has been something like the progress of truth; suspected at first, though very palatable to those who had the courage to taste it; resisted as it encroached; abused as its popularity seemed to spread; and establishing its triumph at last, in cheering the whole land from the palace to the cottage, only by the slow and resistless efforts of time and its own virtues.' E. V. LUCAS.

# THE MANURING OF TEA ESTATES.

This subject is of so much importance and we were so pressed by Mr. John Hughes of Mark Lane, Consulting Analytical Chemist to the Planters' Association, to look into the matter, that we decided to issue a circular to representative planters asking information on the following points :—

1. Has the manuring of tea estates become general in all, or only in old, districts? or, if your experience is local, in your own district?
2. Is bulky manure chiefly used?
3. Is the manure sent up by railway used alone or mixed, and is there much of bone-dust and nitrates as well as of castor-cake and fish manure now used?
4. Do you think harm is being done to any extent by the use of artificial manures in the case of tea?
5. How does the oldest manured tea compare with unmanured tea of the same age?

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Here are the replies already come to hand :—

No. I.

Dec. 29.

DEAR SIR,—1. In both old and new districts manuring has been resorted to. But it cannot quite be said that manuring has become very general in either.

2. I should say that there never was less bulky manure used than at the present time. Tavalam bullocks are almost things of the past, and few cattle except for carts and dairy purposes are kept on estates, and many old grassfields have been planted with tea. Places like Mariawatte get a lot of bulk from adjacent towns. In the case of estates near the Sanitarium, and where people do mostly congregate, the application of what is euphemistically described as "bazaar manure" should not be encouraged.

3. Castor-cake chiefly, sometimes mixed with fish and a small quantity of bones. But bone-dust is supposed by some people to induce growth of seed.

4. I should say not, although I have heard it so stated in the case of some lowcountry estates. My own experience is that although cattle or farmyard manure was the best for coffee, it does not fetch tea so much as artificial.

5. Favourably. W.

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No. II.

Dikoya, Dec. 29.

DEAR SIR,—In reply to your circular letter of 26th inst., manuring with castor-cake and bones is pretty general in this district; on some estates, however, to a small extent only. I cannot speak for Bogawantalawa division.

My opinion is *decidedly* in favor of manuring, and that much benefit has resulted to tea, both as to general appearance and yield, I have not a doubt.

The oldest manured tea here is giving 200 to 250 lb. more per acre than unmanured tea of same age.

I have seen no harm done anywhere by manure. E. S. A.

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No. III.

Talawakele, Dec. 29.

DEAR SIR,—In response to your circular of Dec. 26th, I am a great advocate of manuring tea and am of opinion that prices are improved by its adoption, and the increase in yield is undoubted.

As a means of providing work for coolies when flush is short, manuring is invaluable, and if the results merely repaid actual expenditure, I should manure on this account alone.

Although keeping a large herd of stall-fed cattle and pigs I am doubtful if bulky manure pays as against artificial. I have not observed any superiority to attach to the use of farmyard manure. That is to say that fields manured solely with artificial have done quite as well as any manured with bulk, and naturally the work is quicker and cheaper in the case of artificial.

I am of opinion that the use of manure, and especially of artificial manure is on the increase. Persons who object to manuring "on principle" are usually hand-to-mouth men who have no money to pay for it, or who wish to pump their properties.

As a rule the manure used seems to be a mixture of ground bones and castor cake in the proportion of the 1 to 4 or 5 parts respectively. A few persons use nitrates and superphosphates as well. I think a slight addition of these substances distinctly advantageous.

I have seen no harm done by excessive manuring—and a glance at the tea round any set of lines would show the folly of imagining that the growth of tea can be injured by the most potent of fertilisers even in excess.

I think it is a mistake to imagine that manure need be applied frequently or that tea suffers from the discontinuance of manuring. I have known tea of very poor quality manured and then left for 5 or 6 years without the yield dropping below what it was before manuring was adopted.

As a rule manure of any kind tells rapidly—but I have known upwards of a year elapse before any improvement was apparent.

The moral of manure, as Capt. Cuttle would say,—lies in the application.

A rotation of manures is in my opinion advisable where possible; say in the following order :—

1. Bulk
2. Castor and Bones
   (Nitrates and Superphosphates)
3. Fish

—Yours truly KILLALOE.

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NO. IV.

Hantane District, Dec. 29.

DEAR SIR,—We have not yet gone in for manuring regularly with artificial here but intend beginning next year with castor cake and bones which many seem using now with good effect. —Yours truly, W.

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No. V.

Ratnatenna, Dec. 30.

DEAR SIR,—1. Manuring of tea planted on old coffee lands or on patana lands has, I think, become general in certain districts.

2. Artificial manures chiefly used as being less expensive, more easily applied, and giving results more rapidly.

3. Artificial manures are generally used mixed. Castorcake and bones as well as nitrates. Fish manure is generally mixed with soil, refuse, grass, etc.

4. I consider that the use of artificial manure is doing harm to the tea enterprise. Such manures as castor and bones give a fictitious value or should I say a fictitious energy to the plants, which sooner or later must produce the worst results. These manures are only fit

for annual root crops. It is surely needless to refer to the case of coffee. The most highly manured estates, *i.e.*, estates constantly worked up with artificial manures, were the first to succumb to disease.

I should be glad to see the practice of using distinctly artificial manures,—those which act as strong tonics,—abandoned. It is all very well to force root crops; but it is surely an error to force perennials.

I give the above as the humble opinion of one who has studied botany and farming in a small way, and I hope I may be absolved from any idea of pretence to speak with authority.

For my own part I purpose to use *no* artificial by itself; and only when mixed with bulk (compost of cattle muck, line refuse, ravine soil, jungle stuff, etc.) sparingly. E. G. R.

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No. VI.

Kelburne Estate, Dec. 29.

DEAR SIR,—In reply to your circular *re* manuring tea, I beg to inform you our district is so very much in its infancy with this product, that but very little manuring has been attempted. I have myself made a small experiment of manuring 25 acres with crushed bones, castorcake and muriate of potash and I am awaiting to see the result.—Yours faithfully, C.

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No. VII.

Maskeliya, Dec. 31.

DEAR SIR,—In answer to your printed letter, I would answer as follows:—

1. It has not become general anywhere, but is becoming more common.

2. Bulky manure is best, but very little is available anywhere. For this reason artificial has to be used.

3. The mixture is usually castorcake with a little bonedust added, and it is usually mixed in Colombo. Some fish manure is also used, and probably a very little nitrates.

4. I don't think any harm is being done.

5. The oldest manured tea yields much better than unmanured tea unless the latter is in very fine soil. PLANTER.

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No. VIII.

Ramboda, Dec. 31.

DEAR SIR,—Yours duly received *re* manuring tea. There is not the least use in my writing on the subject, as I may say I have no experience. No manuring has been done here and of what I did on the other side I have not seen the effects. There are two fields opposite me on the other side the river, which have been manured twice: they look very well in the distance, and I am told have doubled their crop. B.

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No. IX.

Hantane District, Jan. 1.

DEAR SIR,—In reference to your circular on the important question of manuring, tea estates in this district are using manure more or less.

Bulky manures are put out on estates where they can easily be got; others apply artificial. Of artifical fertilizers bonedust is not much used as it tends to increase seed: the favourites are a mixture of castorcake, fish manure, and a little bonedust, while some add nitrates or sulphate of ammonia. Manuring has in no case that I know done harm to tea—all the other way, by increasing the size of bushes, and the returns of crop.

The oldest manured tea very favourably compares with unmanured tea of the same age, especially on old land where the difference is very marked. The important question for planters is how to obtain their fertilizers *pure*. To pay for such a useless thing as sand, and go to the extra expense of rail fare and cart hire as well, is very grievous. In the Manual of Mr Hughes, fish manure, for example, is said to have contained as much as 50 per cent of sand when he was in the island; but owing to increased interest on the part of buyers and also to local analysis, fish manure can be had today with from 15 to 20 per cent only. As the fish itself contains no sand there is still much room for improvement. The above example is put in another way on the basis of the most valuable of manurial ingredients, viz., nitrogen. I find that when Mr. Hughes analysed it (*vide* "*Cochran's Manual*") it contained from 4 to 4¼ per cent, whereas now numerous analyses from Mr. Cochran show that it can easily be procured with from 5½ to 6 per cent nitrogen. This means an increase in the manurial value—taking the highest figures in each case—of about 40 per cent. What all that is to the planter who is spending his money on fertilizers is patent enough.

On the other hand white castor cake in Mr. Hughes' day showed I think about 7 per cent of nitrogen, whereas it is at present difficult to get it much above 6 per cent.

This means that for every seven tons of the superior article, you require fully eight tons to produce the same effect.

The crying need of today on this question is to be able to get manures of guaranteed composition.—Yours truly, HANTANE.

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No. X.

Holmwood, Dec. 31.

DEAR SIR,—In reply to your questions *re* manure:—

(1) Manuring estates has only become general, in my opinion, in the old districts, and in the old districts it is chiefly confined to the older estates.

(2) Bulky manure is very little used except where it is purchased at a cheap rate.

(3) Manures are almost always mixed with castorcake and bones, or castorcake, fish and bones.

(4) I think it probable that we are drawing on our capital by the use of such unscientific manures as those now in general use. In my opinion they are forcing to the bushes at the expense of the soil and that unless a change is made, a day of reckoning will come.

(5) So far as my experience goes the oldest manured tea gives about twice as much as unmanured tea of the same age.

As to your query about values—I think we have reached the limit of the swing of the pendulum, though I do not anticipate any immediate reaction owing to the difficulty of obtaining investment for the enormous amount of money in the hands of capitalists. Shares may be forced up by interested operators, but there is small margin even now for them to work upon. 6% and 7% seem to be the outside interest procurable in sound Companies. —Yours truly, B.

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No. XI.

Upper Maskeliya, Dec. 30.

DEAR SIR,—I cannot say whether manuring has become general in other districts or even in the lower part of this district. At this end of Maskeliya most estates are applying artificial

manure composed of bones; castor cake or bones, castorcake and fish. Very little bulky manure is applied, but in some cases the artificial manure is applied when the prunings are buried. I don't think nitrates have been much used as yet.

I think that the manure has temporarily very much improved the size and apparent strength of the bushes and has increased the yield and not perceptibly reduced the quality or the value of the teas made.

Manuring is only in its infancy up here; but I am told by planters who have done much that each application improves the yield.—Yours truly, W.

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No. XII.

Central Province, Jan. 1.

DEAR SIR,—In reply to your Circular of the 25th inst. in *re* manuring I should say:—

1. In several of the older districts it is being generally resorted to and the younger ones are following suit. A few years hence it will, I anticipate, be general throughout the whole country.

2. Bulky manure is used to a very limited extent nowadays except under favourable conditions as regards supply. Cattle manure is too expensive and gives in so many instances a very undeterminate idea of the fertilizing matter you are supplying to your bushes. The organic matter can be secured at less cost by burying prunings green.

3. Artificial manures are chiefly used, white castor cake, bone meal, and fish being the favourites. The former, if of good quality, is an excellent nitrogenous manure, but its value in fertilizing matter varies from R40 to R80 per ton. The finest I have had of late years showed 8% nitrogen; but of this quality I am informed there is only a very small supply available in India. Bone Meal is more definite in character, unless clearly adulterated containing 24 per cent phosphoric acid but this it's main element is only required by tea in limited quantity, so that any large application of this can only be a waste of money. The Nitrogen it contains some 3 per cent can be purchased cheaper in other forms. Fish apart from the sand and moisture, it generally contains, is an excellent manure; but manure vendors do little to supply it pure. It in most cases contains from 30 to 50 per cent moisture and sand; though it can be purchased to contain under 15 per cent showing close on 7 per cent nitrogen and 5½ per cent phosphoric acid. Nitrates and Ammonia are being used with distinct advantage. When applied in combination, on sound common sense lines, they cannot in any sense be detrimental, or exhausting, if so used. Used indiscriminately of course, they would be harmful and exhausting.

4 My own experience is that well compounded artificial manures, increase the yield, improve the quality of the tea and steadily improve the healthy appearance of the bushes especially on old coffee land, giving in a few years, what were miserable stunted diseased bushes, fine luxuriant ones.

5 Systematically manured tea for a period of years with the essential elements of fertility in due proportion, gives an average of 700 lb per acre, while similar unmanured tea gives 350 lb. per acre and as regards appearance of the bushes the latter is simply not in it. D.

## MANURING OF TEA:
## LETTERS I TO XII REVIEWED.

If any proof were called for, of the necessity of the inquiries we have instituted touching the manuring of tea and its effects, it is to be found in the varied and interesting replies which we have received, and hope yet to receive, from all parts of the island. It may at first sight seem superfluous to make any inquiry about a matter which some think can lead to but one answer. It is almost an axiom in agriculture that land, out of which anything is taken, should be manured—that is, be given back some at least of the constituents taken out of the soil; and it would seem to be inevitable that crops must improve under the stimulus of manures. These, perhaps, may be accepted as truths of general application; but what is true of man and of animals is equally true of plants. The same food is not beneficial to all classes alike; indeed, the sustenance of one may prove poison to another. But, apart from the regulation of manuring according to the crops sought and gathered, and the character of the soils to be dealt with, a further element of doubt has been introduced by the belief expressed in some quarters, that manuring—at any rate manuring with certain substances—injuriously affects the quality of tea and its flavour. In these circumstances, inquiry and the free interchange of ideas cannot fail to contribute to the common good; and it is in this view we have circulated our questions which have called forth most encouraging and instructive answers from far and near. In our review of the replies which we owe to the courtesy and public spirit of our correspondents, we shall deal first with the first twelve communications, given above.

The answers to the first question:—Whether the manuring of tea estates has become general in all districts or only in the older ones, shew, as was to be expected, some variety, according to the standpoint of the writer. The general result may be said to be that, while manuring is not resorted to by every estate in a district, whether old or new, it is decidedly on the increase both on new estates and old; and all but general on the older ones. This is a most hopeful feature, as it was not very long ago that we lamented the poor show which manures made both among our importers in our railway traffic returns. The increase we would trace, not alone to faith in the efficacy of manures, but also to what is more potent than faith in such things, the ability of the purse to bear the charge. Still, we fear, there are not a few who do not take sufficient thought for the morrow; but are selfishly content to take what they can from their land, in the happy-go-lucky belief that things will somehow continue much as they are. These would do wisely to study the answers to our fifth question, which point to the conclusion that manure has done much more than arrest the deterioration of old land which has been under cultivation for a generation or more—that it has improved it, and has led to heavier crops, and thereby to more remunerative returns.

The answers to the second question—Whether bulky manures are chiefly used?—are distinctly disappointing; but they can scarcely surprise one.

Few estates are within easy reach of cattle sheds; and the cart roads passing through or along side estates are seldom main arteries of communication. The cattle establishments of the coffee era have almost all been dismantled, and we fear that the thoroughness and sense of permanent settlement, which distinguished men of the type of "R. B. T.", Logie Elphinstone and Mattakelle Smith, are to some extent, at least, wanting among individual proprietors of the present day? This drawback should be cured by the resources of the big Companies which are taking the place of large proprietors; for, the experience of places like Mariawatte would seem to establish that, for leaf crops, cattle manure answers splendidly; and, of course, bulky manures are more beneficial to worn out and long-cropped lands than artificial compounds. Curiously, the very first letter in our series contains a warning against "bazaar manure"—but why?—and questions whether cattle and farmyard manure is as beneficial to tea as it was to coffee. Surely it should be the other way?

The third question—Whether the manure sent by train is used by itself or in combination with other stuff?—elicits replies which point to the desire of planters generally to mix it with bulk, and to the difficulty of securing the latter, except in favoured situations. Castor-cake would seem to be a prime favourite, mixed with fish manure, and a small proportion of bones—though the latter is objected to as producing seed. Here we have an example of how science and experience meet, and how valuable the observation of even the most ignorant may become. The *goyya* readily uses bone dust for his paddy fields, but he abhors cattle manure as producing straw rather than grain?

There is a strong consensus of opinion —all but general—in response to the fourth question, not only that no harm is done by the use of artificial manures, but that the bushes and crops are distinctly improved. The only exception is to be found in E. G. R's vigorous condemnation of artificial manures as "doing harm to the tea enterprise," of castor and bones as giving "a fictitious energy to the plants which sooner or later must produce the worst results." Yet, even E. G. R. would use artificial manure mixed with bulk; so that it really becomes a question of applying only suitable manures; and that brings us to one of the propositions with which we started, that what is food to one may be poison to another. It is thus, not the intelligent use, but the thoughtless abuse, of manure which is to be guarded against, and what more effectual safeguard can one have, coupled with close observation, than the analysis of soil and the analysis of manures both as a means of checking fraud and using the right thing? We are by no means disposed to provoke a contest between "Killaloe" and "E. G. R." whether with shillelagh or rifle, the more so as the decline of the former cannot apply to the latter, but as a set-off to the growl from Ratnatenna, we would place the cry from Talawakele, that artificial is to be preferred even to bulk manure and that "persons who object to manuring 'on principle' are usually hand-to-mouth men, who have no money to pay for it, or who wish to pump their properties"! And that brings us to our last question—How the oldest manured tea compares with unmanured of the same age?—the answers to which are most gratifying and encouraging. With almost one voice they record a great improvement in the appearance of the bushes and greatly increased yields. "E. S. A." from Dikoya estimates the increase in yield at 200 to 250 lb. per acre; "B" from Holmwood, while strong in condemnation of "unscientific manures," estimates manured tea to give twice the yield of unmanured; "D" from the Central Province, puts down the average at 700 lb. per acre from manured tea and 350 from unmanured, in a suggestive letter; while our other correspondents testify to the improvement both in appearance and yield of the bushes. It is impossible to resist the effect of such evidence; and when we take into account the acreage of young tea coming into bearing or to maturity, the proved and ascertained effects of manuring which is becoming more general, and even the new clearings, though they are not particularly extensive, we cannot understand how any intelligent person can speak of tea in Ceylon having reached its maximum production.

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*(Letters Continued.)*

No. XIII.

Lower Ambagamuwa, Jan. 1.

DEAR SIR,—1. With the exception of one or two estates, manuring is not done systematically in this district; most estates do a little manuring each year, but the manure is chiefly applied to their ridges, or fields that show signs of weakness.

2. The bulk manure is very little used, in fact hardly at all, except by estates situated near villages, where town manure can be had.

3. Manure sent up by Railway is used alone, the mixture generally applied being crushed bones and castorcake, 1 of the former, to 3 of the latter; 5 ozs. of the mixture being as a rule, applied to each tree.

4. Certainly not.

5. Favorably.

To get the best results from manuring, the manure should be applied (dug in if the land be not too steep) as soon as possible after a severe cutting down.—Yours faithfully,

TEA FARMER.

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No. XIV.

Balangoda, Jan. 1.

DEAR SIR,—Thanks for your circular. Sorry I cannot tell you much about manuring tea, as down here little or nothing has been done as yet. Though, I believe they are beginning to do more in Haputale. Personally I am in favour of bulk manure, one basket full between four trees. Have done two or three acres here with good results. This past year has been an awful one for rain, and as I write 8 a.m. its pouring steadily.—Yours truly, BALANGODDE.

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No. XV.

Matale N.E.

1. A few estates here manure with excellent results.

2. When bulky manure is available it is always applied, but it is very limited.

3. So far as I am aware the chief manures are castor cake and bones mixed—also fish manure with a mixture of the above.

4. *No*—wherever manure has been judiciously applied, it has greatly improved the appearance of the tea and increased the production of leaf.

5. On old coffee land the oldest manured tea gives nearly double the yield that the unmanured tea does, that is, where manure has been regularly applied.

I am of opinion that more manuring would be done on old coffee lands, but for the insufficient and uncertain labour supply. W.

No. XVI.

Kadugannawa, Jan. 2.

DEAR SIR,—In reply to your queries *re* manuring of tea,—

1. Becoming general in old districts and on an experimental scale at least in new districts. On old coffee land it is indispensable.

2. Artificial manures chiefly used, except where road-side cattle sheds and town refuse are available.

3. Castorcake and bonedust in proportions of 4 or 5 to 1 the most general application, and occasionally nitrate of potash and fish manure.

4. No harm from effects of manure, but inevitable loss of soil from repeated applications in steep land.

5. Manured tea compares favourably with unmanured and yields better returns.

"OUTLOOK."

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No. XVII.

Hatton, 1st Jan.

DEAR SIR,—Many thanks for your circular of the 26th December *re* Manuring of estates. I can't speak for other districts ; only that I hear manuring is more general than it was two or three years ago :

1. Manuring is more general in all old districts. Manuring has been pretty general in this district. Castorcake and bonedust—5 cake to 1 bonedust.

2. Bulk manure is very little used unless on a few estates close to caddies, such as Hatton and Dikoya. The large number of cattle that is required to manure an estate say of 200 acres prohibits bulk manuring.

3. The manure sent by rail is mostly used alone ; castorcake and bonedust and a *little nitrate* of potash.

4. I do think that castorcake and bone dust hurt the flavor of the tea ; this I am sure of.

5. Manured tea in old land certainly compares favourably with unmanured tea, and I am positive manure pays well on old estates where the tea is backward. As I have already said castorcake and bones do affect the flavor of the tea to such an extent that it affects prices considerably ; but against this you get a greatly increased yield, say of 200 lb. per acre, for at least two years. But, Mr. Editor, what is the good of all this manuring when many estates that have manured regular, can't pluck their leaf year after year for want of labour ? It would thus be far better if some estates were satisfied with the 450 lb. per acre in place of 600 lb. and not plucking it. This is a very large question which I don't feel inclined to enter into just now. In fact, as I want to keep my dearly-bought experience to myself unless I get a large fee from the Creeper "Association."

In conclusion, I challenge any of my brother planters to say if their prices have increased since they commenced regular manuring with castor-cake and bones ? I am, however, convinced half of them know nothing about the subject ! This is a bold assertion from

A NOVICE.

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No. XVIII.

Upper Maskeliya, Jan. 1st 1897.

(1) I believe the manuring of tea estates has become general and in all districts—new as well as old—but my experience is confined to this district where manuring *has* become general.

(2) Very little bulky manure is used here with the exception of line sweepings and a little stable manure.

(3) The manure sent up by railway is usually mixed in Colombo—the favourite proportion being 3 of castorcake to 1 of bonedust.

Fish manure is used a good deal. An excellent mixture is, castorcake 40 per cent., fish 40 per cent., and bonedust 20 per cent. The great objection to fish manure is that it contains a large proportion of sand and is not ground fine enough to admit of its being thoroughly mixed with other manures. Fish manure should only be applied to those parts of estates where there is no possibility of its contaminating the streams from which the coolies draw their water.

I have not heard of nitrates being used in this district, and should not care to use such stimulating manures, except by the advice of an Agricultural Chemist.

(4) No harm whatever is being done by the use of artificial manures. Quite the reverse.

(5) Unmanured tea is quite out of it in comparison with manured fields of the same age. Manure not only gives a large increase of leaf; but it increases the size of the bush and gives an abundance of strong healthy brown wood for pruning.

NORTH.

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No. XIX.

UVA SIDE.

No. 1. Being a comparatively new district, manuring has not been generally carried on here.

No. 2. I have used cattle manure chiefly.

No. 4. When artificial manure is used without due analyses of soil being previously procured to discover the chief chemical ingredients required, I think it likely that harm may be done and the quality of the manufactured tea adversely affected.

No. 5. I have no actual figures to go upon, as the fields have not been kept separate, but the manured bushes flush better and longer ahan those not manured.

G. H. G.

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No. XX.

Jan. 2nd. 1897.

DEAR MR. EDITOR,—We would all manure if we could, but where is the labour? Not only individual estates, but whole districts are crying out for more coolies. We are rubbing on now, but what shall we do in April and May? What is the use of increasing the yielding capabilities of our tea, if we cannot pluck the extra leaf? Now for your questions :—

I. I don't think the manuring of tea is *general* in any district. It is more so in the new districts, because they are better provided with *cart road transport*—an estate without a cart-road to the boundary, or nearly so, cannot indulge in manure, not only is the cost of transport prohibitory, but labour is not available. Tavalam cattle in olden times carried our manure, but they have long ago disappeared from all the old districts.

II. Very few cattle are kept now-a-days, no coolies can be spared to tend, or cut bedding for them, so we have no bulky manure to apply.

III. The principal manures used by estates connected with a cart-road are castorcake, bonemeal, and fish.

IV. I have used all sorts of manure during the last 6 years, and unhesitatingly say that it has been of the greatest possible benefit,

V. Manured tea has the great advantage that it flushes more evenly, and steadily all through the year, being less affected by variations in the weather.

What we want all over the country are *more roads*, and *more labour*; then manuring will be general, and the country far more prosperous.

I wonder how many of your readers have read the articles in your issue of Dec. 21st and 22nd:—"The Germ Life of the Soil," and "Finger and Toe in Turnips." After reading these, I think few men could continue that objectionable habit of poisoning the soil, by *burying tea prunings*: burn and manure with the ashes if you like; but failing this, leave them on the ground, the sun will very soon destroy any harmful matter, and the leaf covering left on the ground is beneficial in retaining moisture, and preventing wash.

*Cacao Planters* will learn in time to pay attention to the refuse husk of the pods after taking out the beans. It is a source of danger always; the only safe way to deal with it is to throw them all into a pit, and cover with a good dressing of *quick-lime*, a supply of which should always be on hand during the crop season, but it must be *freshly* burnt.

If it takes 5 or 6 years to destroy the harmful effects of refuse from the turnip shed, what must be the results of burying cocoa husks, almost fresh, year after year in the same soil, and to the same tree;—quite sufficient to account for the serious bark disease of which we hear so little, but which is doing incalculable harm to the Cacao Industry.

OLD PLANTER IN OLD DISTRICT.

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No. XXI.

Knuckles, Jan. 2nd.

DEAR SIR,—In reply to your circular of 26th December, I beg to hand you the following:—

(1) Manuring is pretty general over all this district, *i.e.* on all tea fields planted on old coffee land. I have not as yet heard of any one manuring tea planted on virgin land. Many of the estates here manure regularly from 50 to 100 acres per annum.

(2) Bulk, *i.e.* cattle, manure is being used less and less every year.

(3) Bones and castorcake, either mixed or separately, seem to be the favourites. I myself have extensively gone in for fish (whole fish from Tellicherry) applied in the form of a compost made of fish, mana-grass and ravine soil with the best results.

(4) I can see nothing as yet but good resulting from manuring.

(5) Tea manured from the commencement is fitter today than ever it was. I doubt if it would have been in cultivation without such assistance.—Yours faithfully, T. D.

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No. XXII.

LOWER MASKELIYA.

DEAR SIR,—Replying to your circular of the 26th ultimo: I should not say that manuring had become general but it is on the increase and there certainly is a preference for artificial of sorts. Fish manure seems to be gaining in favour; but, in my opinion, its properties are such that it does not give such good value for its cost as castorcake. To bring tea into heart cattle manure is decidedly the best, but for forcing crop its action is not so immediate or pronounced although more lasting. A free use of bones I am decidedly averse to although a *small* admixture with castorcake is advantageous. Much depends on the soil to which manure is added and *where and how it is applied*—judicious manuring is certainly most desirable and remunerative notwithstanding that it, for a time, somewhat depreciates quality. W.

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No. XXIII.

DEAR SIR,—Manuring tea. We have done little at that here, but are to have a try this year with 73 acres. 1896 is the best year we have had: over 480 lb. per acre. DIKOYA.

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## MANURING OF TEA:
## LETTERS XIII TO XXIII REVIEWED.

We find that letters (XIII to XXIII) support generally the conclusions of the twelve letters we had first noticed. These come from Lower Ambagamuwa, Balangoda, Matale N. E., Kadugannawa, Hatton, Upper Maskeliya, Uva-side, Old District, Knuckles, Lower Maskeliya and Dikoya; and from none of them do we learn that manuring has decreased, that any one has had reason to lose faith in the efficacy of fertilizers or that harm has come from their application. The note from all sides is, that manuring is going ahead, that experiments have begun, or are about to commence, on places which have not hitherto tried manures, and, in fact, that manuring is becoming general throughout the Tea Districts. This is the key-note of the letters now under review, with scarcely an exception. The scarcity of bulky manures seems to be as deeply regretted as it is widely experienced, only estates in close proximity to Bazaars being in a position to secure a supply. As we noticed previously, cattle establishments seem to be things quite of the past. There is something pathetic in the experience of an Old Planter in an Old District, who reports that even Tavalam cattle have vanished from the scene—so that the new districts, being better provided with cart-road transport, enjoy greater facilities for manuring than the old.

While there seems to be a very general, almost universal, preference for cattle or bulky manures over all others for the leaf-crops which are now the mainstay of the planter and the country; yet, as a matter of experience, artificial manures have generally to be used. Though the use is in most cases from necessity, not choice, the general verdict is that the result fully answers expectations. G. H. G., however, from the Uva side, utters a word of warning, lest the use of artificial manures without analysis of the soil, may work harm; but he himself is in the happy, exceptional position of having cattle manure. We certainly do not underrate the importance, and even absolute necessity in some cases, of soil analysis; but, so far, the ordinary combinations of castorcake, bones and fish have not been found to be in any way injurious to the trees. And that brings us to the very emphatic testimony of "A Novice" from Hatton, who protests that "castorcake and bonedust hurt the flavour of tea." It is in connection with an opinion like this that the value of analytical work becomes manifest—not only that the chemist may furnish a careful analysis of the soil operated on and the special ingredients of the manure applied, but that he may find out wherein the tea

reported to be injuriously affected differs from tea plucked from unmanured fields, or from fields to which other manures than castor and bone have been applied. We hesitate to quote the experience of our numerous correspondents who have nothing but good to report of artificial manures and of this special combination of them; for "A Novice" retorts, in anticipation, that "half his brother-planters know nothing about the subject," while he challenges anyone to say that "their prices have increased since they commenced regular manuring with castorcake and bones." But, then, who can report any recent improvement in prices, whether after manuring or before? We should say such estates might be counted on the fingers of one hand; and it would be scarcely fair to lay at the door of manuring the general declension of prices which has been experienced for the past few years. On the other hand, we by no means discredit the verdict, but would ask for more light on the subject, and for closer investigation; and this is one of the benefits which we anticipate may result from the Circular we have issued among the more thoughtful and experienced of our planters in the various districts.

Indeed, the side-lights thrown on the tea enterprise by the correspondence we are publishing, are quite as important as the direct information which is placed at our disposal; and the side-issues which so many raise are quite as interesting and suggestive as the answers to our specific questions. Thus "A Novice," despite his verdict against castor and bones, as injurious to the flavour of tea, concedes a greatly increased yield from their application—estimated at 200lb. per acre, for ten years; but he inquires, What is the good of all this manuring when many Estates cannot do justice to the plucking of the leaf they have, for want of labour? The question is a very pertinent one, as also whether it would not be better to be content with 450 lb. per acre than to force out 600 lb. and not be able to take it all in? The prime importance of the labour question is emphasized by "Old Planter" who pleads lack of labour, not only for harvesting enhanced crops, but even for the transport and application of manures; and the Government would do well to note in connection with the discussion of this question, the way in which the shortness of labour comes constantly to the surface, and the demand for more roads and better roads is urged from many quarters. If the prosperity of the Colony is intertwined with tea, the continued success of tea clearly depends on abundant labour and efficient means of communication; and these should receive the special attention of Government, as we are glad to think they have begun to do with the Governor, whose proposals for the extension of roads we recently commended.

An "Old Planter" however, deals thoughtfully with certain side-issues, which we should wish to see discussed by other planting friends, and on which, we fancy the Agricultural Chemist will be able to throw a good deal of light. Among these are the the burying of green tea prunings, against which "Old Planter" is particularly strong, and the careless heaping or burial of the husks of cacao pods. We can quite understand harm being done by the accumulation of fermenting pods, both from a sanitary point of view, and as a nidus for insect and fungoid pests, which would attack the soft wood of the tree with fatal effect. We should like, however, to hear more on this and the other subjects we have indicated. Meanwhile, we would make one reservation, in view of a possible misapprehension of our own leanings. While convinced believers in the efficacy of manures and their need on most Ceylon estates, we do not counsel their blind application, or any forgetfulness of the fact that the soil on some local plantations may not need renewal for many years.

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(*Letters Continued.*)

No. XXIV.

DEAR SIR,—With regard to your questions *re* manuring tea, I should have thought that this subject was so simple that more ventilation was unnecessary. If we have virgin soil, or rich alluvial lands like the Assam fields, then by all means save expense by abstaining from manuring. But with our played out coffee-estates, if we wish to make ends meet, we *must* manure. It hardly matters what manure is used so long as facilities are considered. One estate near this has become a mine of wealth to its proprietors by bulky-manuring. But it is not every estate that can stand the costly arrangements which bulky manure entails; such as cattle-sheds, grass fields, &c. I have found fish manure very effective; but I have had very little experience in manuring tea. I would avoid manuring if I could possibly do so. The wash on our steep-hillsides means a very wasteful system of manuring. If we consider the distant future of our staple then I should say that manuring means the drawing on the capital of the "unearned increment" of every estate. But we must consider the present, and at present we must make ends meet.

The local "Times" has been very much exercised that we are a half-penny or two behind India in prices. Is India struggling with old washed-out coffee estates? Is India attempting to cultivate every acre of hard gravel or cabook? Is India pruning all the year round and reducing expenses as Ceylon has done? Let us hear what India is putting tea F.O.B. for.—India has its rich loam and its regular season of annual pruning, so all the resources of an estate are concentrated in a short busy season.

Surely every Ceylonese knows that tea is made in the field. Supposing the critical editor had his way, and the European changed places with the Tea-maker, then what about close and irregular plucking, and coarse leaf? The very essence of the science of the matter is a smooth revolution of the wheels, a steady careful round of the fields—*careful plucking.* The routine of the Factory is properly placed in the hands of an educated native. The routine of the plucking rounds should be in the hands of a European. Are we all wrong and the editor, "Times of Ceylon" right?

**1897.**

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No. XXV.

SIR,—*Re*—manuring tea. My own experience is rather limited and peculiar, my tea being all young I have not begun regular manuring; but permitted the Municipality a "free coup" of Kandy refuse, the only result being that all the tea with which it came in contact sickened and died! —and no supplies will now grow on the spot where the stuff was emptied.

Perhaps one of the most methodically manured estates in the Central Province is New Peradeniya. I have visited the fields and examined the carefully kept returns, noting that cattle manure comes out an easy first, doubling the yield;—the

best artificial only showing about ⅓rd increase over the unmanured. But it must be borne in mind that cattle manure is the most costly.

I hope that the painstaking and indefatigable manager of this fine property will let you have full details of his interesting experiments *pro bono publico.* O. C.

No. XXVI.

Dikoya, Jan. 3.

Manuring in both old and new districts is vretty general ; but the scarcity of labour presents many from going in for it on a large peale.

2. There is very little bulky manner used, as few keep cattle in these days. In my opinion artificial manure when properly applied gives quicker returns, and compares favourably with bulk in every way.

3. Steamed Bones and Castor Cake, in the proportion of 1 part of the former to 4 of the latter finds most favour, though some add fish to this mixture with advantage.

4. I do not think any harm is being done by the use of artificial manures ; at all events, I know several estates that have been systematically manured with Bones and Castor Cake for the past 8 or 9 years, the appearance of the tea now, is decidedly finer, than on the adjoining estates of the same age and the yield is certainly not less than 200 lb. made tea, per acre. better. There is a well known estate in Dikoya where manuring with artificial was carried out on a liberal scale for several years ; some four years ago manuring was discontinued, and at present the tea is looking superb, and I am assured by the manager, that the yield is quite as good as it was before manuring was commenced. This proves that tea does not suffer from the discontinuance of manuring up country. ORAM.

No. XXVII.

Kotmale, Jan. 4.

In this district manuring is systematically carried out on two or three estates and with the best results as regards yield and improvement of the bushes.

Cattle manure does not tell on the flush till six or eight months after application, nor does it give the heavy yields obtained from artificial manures in the first year; but has a more lasting effect on the bushes and need not be repeated till four years have elapsed from the first application. If practicable the best results would be obtained by giving a light dose of artificial two years after the cattle manure was applied or mixing some stimulating manure with the cattle manure when applied.

So far the best mixture appears to be Castor Cake. Fish and Nitrate of Potash in the proportions of about 6. 3. 1. applied in semi-circular holes and 10 cwt. to the acre.

Tea to which Castor Cake (only) was applied in 1892 and not since manured is now yielding flushes equal to the same tea which has never had manure and shows no injurious effects from manuring. I do not, however, approve of letting the tea run more than three years without a second application and should say when once begun, it should be followed out systematically as a means of keeping up the condition of the bushes and maintaining the increased profits resulting from careful and judicious manuring of fields which will respond to the manure.

It is questionable if it pays to manure tea which without it only yields 250 lb. per acre. Preference ought to be given to fields from which a higher yield is got.

It is difficult to say whether on the whole, quality is impaired or improved by manuring ; careful comparisons for two years showed little difference, but was slightly in favor of manured tea.

Manured tea does not feel the effects of a long drought to the same extent as unmanured tea and unless the drought is prolonged for several weeks no material difference is noticed in the yield of leaf. A. F. S.

No. XXVIII.

Bogawantalawa, Jan. 2.

The manuring of tea is carried on a good deal on many estates throughout the tea districts whose transport facilities are easy, where long cultivation or poor soil makes it more or less necessary to reap the full advantage. Some proprietors however do not believe in the efficacy of artificial manuring considering it too stimulating and not sufficiently lasting in its results. But I think there can be no doubt as to the fact that planters generally are applying large quantities of artificial manure on many estates with very good results both in the low country and on the hills. And where this is applied with care, systematically good results in increased yield and stronger growth of wood are generally apparent. I have never used Nitrates nor have I known any one who has done so recently. Bones and Castor Cake seems to be the favourite mixture in proportions suited to the elevation, soil, climate and other conditions.

Bulk manure which was so much used in the coffee days seems to have now become confined to what is made by a few bungalow cattle or from cart bullocks and roadside cattle sheds. Fish manure is applied by some—and I have heard of it being made into a compost heap with layers of the succulent portion of jungle growth, fish manure and jungle soil, but I do not know of any being applied straight to the tea trees.

"TEA BUSH."

No. XXIX.

Agrapatana, Jan. 4.

DEAR SIR,—In response to your letter I send the following replies to your questions *re*-manuring:

No. 1. In old districts I believe the best paying estates generally manure their tea. In this district it is not general, but only the few manure, or at any rate to any extent.

No. 2. There are very few estates that are able to do bulky manuring other than burying prunings, any attempt at cattle manuring for tea, means a large acreage of good land being used for grass and at the present value of land this means very much. Anything less than thorough provision for up-keep of sufficient cattle, to do this work efficiently, is simply playing at manuring.

No. 3. The artificial manure most used is Castor Cake and Bone-dust with a little Nitrate, &c. mixed in suitable proportions.

No. 4. No, certainly not. If properly applied and well mixed with earth in the hole I have only found good results, and very much so, in most cases. Extended over 3 or 4 manurings (4 to years) I have seen the yield doubled in some instances, and always after first year or so, the appearance improved, and yield considerably increased ; and I have not found that the made tea loses quality or flavor through this manuring.

No. 5. The only manured tea of same age I have, is where soil was naturally better and tea was already giving exceptionably large yields. My object is to work up the other fields to same yield as nearly as possible with these, by manuring. In some cases this has been already done, while in others it is gradually being effected. I think that all manuring should be occasionally, at least, changed; and that artificial manure is best applied for 1st or 2nd time in semi-circular holes direct to each tree, but that the succeeding application is best (in many instances) (in 4 times the quantity) dug well into the large holes where previous years' prunings were buried and have well decayed. In any case where artificial manuring is done, I think all prunings should be buried and I have found that this alone gives very good results, *i.e.*, burying prunings only in most soils and that in certain soils I have had first-rate success; with distinct flavor; where a little coral lime was applied with the green prunings. W. B. J.

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No. XXX.

Kotagala, Jan. 5.

No. 1. I cannot say that manuring is general: a large number of estates manure in a small way, but few go in for systematic applications, uncertainty of the labour force is rather against this at present.

No. 2. I should say artificial manures are used to a much larger extent than bulky, in most districts. Castor-cake is the principal ingredient in most; manures, applied in the district (Dimbula.)

No. 3. Bones, Nitrate of Potash, and lime are sometimes added with good results also fish mixture.

No. 4. A deal of good is being done, in my opinion, by the application of artificial manures, especially where good tillage is gone in for, when applying; harm can only result from bad application.

No. 5. Tea manured 7 to 8 years ago compares most favourably with the unmanured, alongside of it.

A BELIEVER IN MUCK FOR TEA.

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No. XXXI.

Rangalla, Jan. 5.

DEAR SIR,—In answer to your circular *re*-manuring tea, I have to say.

1. Manure (Castor-cake and Bones) has been applied to a few estates in this district; the little that has been done has greatly improved the tea (mostly on land over 40 years in continuous cultivation) and on one estate doubled the yield in nine months after application.

2. Bulky manure has not been used to my knowledge, up this way; it is a thing of the past.

3. The manure used has been Castor Cake and Bones—4 parts of the former to 1 of the latter—4 ozs. to a tree or hole.

4. Decidedly not: there is no doubt the use of artificial manure has been beneficial.

5. A great difference, the manured tea looking greener and healthier, and flushing much better.—Yours faithfully,

ALL FOR CULTIVATION.

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No. XXXII.

Kelebokka, Jan. 6.

I can scarcely contribute any information of any value in *re* manuring as I have never applied any manure to tea except cattle manure, coffee pulp, and line sweepings, all of which latter are collected and carried to the manure heaps daily. We get over a good deal of ground in this way with the best results the effect of



our manuring—merely forking in, in lines, as nearly as possible parallel to the drains—lasting apparently for years.

I think all the estates in this district, (my own excepted) or very nearly all, apply Cake, Bone-dust, and Nitrates to a greater or less extent. I don't suppose much harm is being done, but cannot see where the profit comes in at present prices. Rutherford and his co-directors Talbot and others agree with me, that powerful chemical manures are better avoided. PROPRIETOR.

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XXXIII.

DEAR SIR,—1. Manuring is increasing; but has not yet become general either in old or new districts.

2. As a rule few cattle are now kept for manuring purposes and only small areas are manured with line refuse and manure from bungalow and kanganies' cattle, except where estates have the use of manure from road-side cattle-sheds and bazaars.

3. The manure sent up by railway is mostly used alone and Bone-dust, Castor-cake and fish in varying proportions are the principal manures used.

4. Over-doses have done harm; but artificial manure in small doses at frequent intervals, say once in two or three years, mixed in such a manner as to supply the constituents which tea removes, appears to have done much good, both in improving the bushes and the yield.

5. So far as experience goes, the oldest regularly manured tea compares very favourably with unmanured tea of the same age, and bushes manured only once and then left unmanured, have finer frames and are in better condition to respond to further manuring than the same tea never manured.

The most important and the most difficult point to ascertain is the effect of manuring on the quality of tea made.—Yours faithfully.

OYA.

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No. XXXIV.

Dimbula, 7th Jan. 1897.

DEAR SIR,—(1) The manuring of tea has only been carried on to a limited extent in this district as the soil here is as a rule first-class and the yield in consequence is very satisfactory wthout the aid of stimulants.

(2) Bulky manure is not generally available as but few estates keep large cattle establish-ments.

(3) The artificial manure used is usually Castor-cake with a small addition of Bone-meal, and occasionally an admixture of fish manure, and it is generally applied in small doses along with the burial of prunings, or what bulky stuff there may be in the shape of farm-yard manure or line sweepings, though I have seen the mixture applied solely by itself.

(4) The results are altogether beneficial in my opinion and especially so where manure has been applied to poorish looking tea as it improves the size of the bushes and increases the yield immensely. I do not think the prices suffer to any appreciable extent—at all events my experience which, however, is comparatively limited, has been the reverse.

(5) Old tea manured some 5 or 6 years ago is looking as well and doing as well as ever it did—so I have no hesitation in giving my opinion in favour of manure, bulky or artificial, but I should think twice before applying the latter to really fine fields which were yielding heavily and paying well.—Yours truly,

FARMER.

No. XXXV.

Kalutara, Jan. 6.

DEAR SIR,—In reply to your letter of 26th ultimo :—

1. As far as this District is concerned manuring is more or less general.

2. Not in this District : Bones and Castor, mixed about one bones to three castor, and varying from three oz. to 4 oz. per tree is the rule.

3. It is usually mixed in Colombo. I have not heard of much fish-manure being used here.

4. I believe in doing without manure, as long as possible without detriment to the tea, but with the race for dividends one must apply manure or fall back in yield. I am no believer in these light forcing manures, and believe they are sweating the tea out. These opinions, however, do not find favour with most people who want profits, and plenty of them.

5. Manured tea is far finer and bigger in the frame, but once manure has been started you must go on with it, say every two years, or the tea falls back again.—K. T. B.

## MANURING OF TEA : LETTERS XXIV TO XXXV REVIEWED.

THE third batch of letters on this subject are, if anything, more interesting and suggestive than their predecessors—covering, as they generally do, wider ground, and dealing with new side issues. Like the letters we had previously reviewed, they come from all parts of the country, and are written by Planters fully qualified to speak on the matters on which they dwell.

Bulky manures continue to be regarded as the great desideratum for tea by most writers ; and none are able to anticipate freer use of cattle manure than at present. The manure at present in use comes from bungalow and milch cattle ; and, on estates which border the high road or are situated in close proximity to it, from the bazaars and road-side cattle sheds. Cattle establishments would necessitate grass reserves ; and the prevailing opinion is that land would be better utilized if planted up with tea or quick-growing fuel and timber trees. In these circumstances, artificial manures—chiefly bones and castor-cake, as in the earlier letters—and the results of their application, form the subject of comment in most letters. The general result is satisfactory. "1897," recognising the fact that "played-out coffee estates" account very largely for the acreage under tea, is emphatic in the opinion that, "if we wish to make ends meet, we must manure," though he would rather avoid manuring, if possible. The same writer suggests as the explanation of the better averages which Indian teas fetch, that the estates on the neighbouring continent have been chiefly opened on virgin soil, and adopt a different system of pruning, while they do not pluck all the year round. That is a point on which more light is required ; for we do not despair of better prices with greater care in plucking and manufacture. "O. C.'s" unpleasant experience with Kandy refuse is noteworthy ; but was the "insidious defunction" of his plants due to the quality of the muck, or to its quantity? It is wellkown that there may be too much, even of a good thing. It is interesting to learn that careful records are kept on New Peradeniya ; which is described as one of the most methodically manured estates in the Central Province, and that cattle manure comes an easy first—doubling the yield, against an increase of only one-third from the best artificial manure. That, we suppose is explained by the character of the soil. On the other hand, "Oram" from Dikoya, backs artificial manures for quicker returns, and superiority in every way to bulky applications. The difference in the soil under the notice of the two writers probably accounts for their apparently incompatible views ; but it is satisfactory to know that the systematic application of castor and bones for 8 or 9 years, has led to no untoward results, that the bushes look improved, that the yield has improved at least 200 lb. per acre, and that cessation of manuring for four years has not thrown the bushes back. A. F. S. from Kotmale reports more lasting effects from cattle manure, while artificial yields quicker returns ; and his suggestion that where possible, the two kinds should be applied turn about, is worthy of attention. Manuring at intervals of 2 or 3 years seems to find most favour, and it is a great point that manured tea feels the effect of drought less than unmanured. The testimony of A. F. S. runs directly counter to that of "A Novice" in the second batch of latters, as he reports not only no deterioration in the quality of tea, but even a slight improvement after manuring ; but surely, the dictum that it would not pay to manure fields yielding less than 250 lb. per acre, needs qualification. We should think that generally these would require special attention, unless they are hopelessly bad.

The general conclusions above-noted are supported by our correspondent from Bogawantalawa, who reports incereased yield and stronger growth of wood as a result of careful application of artificial manures ; by W. B. J. from Agrapatana, who distinctly denies any deterioration in quality or flavour, while the yield has been increased twoofold by systematic manuring extending over 5 or 6 years; and by "A Believer in Muck for Tea" from Kotagala, and "All for Cultivation" from Rangala who, as his *nom de plume* implies, believes in naught but good from manuring. "Proprietor" from Kelebokka, on the other hand, fails to see where the profits are to come from at present prices by the application of artificial, but he himself has obtained the best results by the use of cattle manure, line sweepings and coffee pulp regularly collected in manure heaps. "Oya" favours manuring at intervals of 2 or 3 years, and pronounces distinctly in favour of the appearance of manured fields ; "Farmer" from Dimbula supports this opinion, and speaks of altogether beneficial results from manuring, "especially from poorish looking tea"—thus running counter to A.F.S.'s lack of faith—while he would think twice before applying artificial manures to really fine, well-bearing fields. K. T. B. from Kalutara counsels caution in the use of manures having a forcing tendency, in which we agree with him ; but surely, it is not merely love of dividends which would take steps against a "falling back in yield." If decreasing crops mean lessened vitality, science and true wisdom alike would suggest the supply of adequate plant food to arrest decay.

SMOKERS SHOULD USE

CALVERT'S DENTO-PHENOLENE,

A FRAGRANT LIQUID DENTIFRICE AND MOUTH-WASH.

Editor of *Health* says :—"The most effective preparation for ridding the mouth of the aroma of tobacco, and leaving a pleasant taste."

Sold in 1*s.* 6*d.*, 2*s.* 6*d.*, and 1 lb. 7*s.* 6*d.* bottles, by Chemists, &c.

F. C. CALVERT & CO., MANCHESTER.

## Correspondence.

### *To the Editor.*

### BÖHMERIA NIVEA (RHEA.)

Heneratgoda, Jan. 5.

DEAR SIR,—Seed sown by us in shaded nursery on the 24th ultimo have begun to germinate from the 2nd instant (in ten days.) If carefully treated we think about 1,300 plants may be raised from one ounce of seed, equal to about 20,000 plants to the lb. We herewith enclose a small packet of seeds.

J. P. WILLIAM BROS.

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### CEYLON TEA IN RUSSIA.

Jan. 6th.

DEAR SIR,—In a letter addressed to Mr. Rogivue and informing him of a grant made by the Thirty Committee towards his work in Russia, I told him the fact which had come to my notice that "certain firms in Colombo and London have made our grants to you the subject of a grievance, and say that you are thereby enabled to undersell competitors." To avoid such complaints it will be necessary for you to devote the grants in accordance with your letters of 8th May 1895 and October 1896."

To this Mr. Rogivue makes a very full reply, and I think what he says justifies the grants which have been made to him, and the confidence of the Committee,—I am, dear sir, yours faithfully, A. W. S. SACKVILLE.

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*Copy*,

Moscow, 20th November, 1896.

Maroseika, House Lebedieff, 2nd December.

A. W. S. Sackville, Esq., Drayton Estate, Kotagala, Dimbula, Ceylon.

My dear sir,—I beg to thank you for your letter of the 9th November, the contents of which had my careful attention.

I also have to tender my best thanks to the "Thirty Committee" for their last vote in my favour for a new grant as the "Times of Ceylon" gives it in one of its last issues for £2,000 out of which, I understand by your letter under reply a sum of £500 or about, has to be specially devoted for the lecturing and advertising tours mentioned in my letter to you of the 25th October last.

I may here inform you that previous to your sanction for the above scheme I had already started the man I selected, Mr. W. Stramberg, on his first tour through the Baltic West and partly Centre Provinces to visit about an hundred towns and villages of which the principals are Klm, Twer, Istashkow, Whisny, Wolostshoe, St. Petersburgh, Gamberg, Wesenberg, Rewal, Hapsal, Weissenstens, Fellin, Darpat, Dolmar, Wenden, Riga, Mitau, Libau, Dwinss, Deenaburg, Wilna Mensk, Smolensk, Vitbsk, etc. He took with him 2,500 packets of 1/32d of a pound and numerous samples of good, middling and lower quality of Ceylon tea, with a large quantity of pamphlets printed for the purpose and has instructions to distribute tea and pamphlets right and left *gratis* in whatever manner he can desire while travelling or stopping in a place, but more especially by going to principal "Tractores"—tea drinking places—ordering a Samowar and collecting as many people as he can, treating them to the tea and at the same time giving them a sort of lecture in a conversational way on the history, the merits and various advantages of Ceylon tea, pointing out to them and praising the rapid progress of consumption the article has already made in Russia and its great extension all over the world.

I hope he will do well and that this first trip will bring in good results. Mr. Stramberg will be travelling in this way for about two months and return here before Christmas when I shall let your Committee have all the details of this first tour and of its apparent result.

Now you will kindly allow me to refer to a paragraph of your letter of which I must confess, I do not understand the cause, but which appears to infer very unjust complaints about my work and has caused me considerable surprise.

I need not repeat to you that since I came in this country in 1890 for the *special* purpose of introducing Ceylon tea in Russia, I devoted all my time, my energy and labour to the *cause* of furthering the interests of *Ceylon*, *Ceylon planters*, and *Ceylon tea*, in preference *of my own*, for, my experience proves it, I could *in business*, have done *here* much better as a general merchant, buying and selling tea (Ceylon or other kinds) in chests and or other produce than selling *exclusively pure Ceylon tea* in *packets* which was *absolutely* the only method to adopt in order to spread a knowledgo of, and create the demand for, Ceylon tea as I soon saw. To this I have devoted myself and left the field open to existing Moscow, London and Colombo firms to supply the *wholesale demand* for *tea in chests* consequent on my labours in the packet and retail branch to reach the *consumer*. Had the "Ceylon Tea Fund" given me from the time of my arrival in this country say 50 to 100 thousand pounds a year of duty-paid tea to be distributed or sold for them in Russia *and paid my expenses and trouble for doing the work*, I would *never* have started business here *on my own account* and would have perhaps attained quicker results. Many people in Ceylon will remember how often in the beginning of my stay in Moscow, I have asked for help in the way of consignments of tea and begged Colombo and London firms to open business *in* or with Russia; but no one came to the front, they were all afraid if not, of losing their money with me, at least to trade with a so, at the time, little known country as Russia.

My business here is the sale of *pure Ceylon tea in packets* and in this kind of trade I can say I have no or little competition because, for the present, most of the Ceylon tea, except mine, imported into Russia serves for the blending of other teas, and the few merchants all Russian firms who sell it *pure in packets*, have prices for retail and wholesale equivalent to mine. I therefore fail to understand how I can *undersell* the competition and know of no firms in London or Colombo, doing a business in packet teas in Russia whom I could compete with or undersell.

I shall not attempt hero to urge that I have always utilized the funds granted to me by the "Tea Fund" and the "Thirty Committee" besides a great deal of my own money, entirely for the furtherance of the Coylon trade generally; my reports and accounts in conjunction with results are my best advocates, the total import of Ceylon tea in Russia being now nearly eight million pounds, while my own import is not yet ½ a million.

That I am regarded with envy *now* by firms who have tried here *lately* to start with Russia business in tea on the *order system*, I can understand, for their success like mine may not come in one or two or even more years, because such a way of business is not suited to the style and ideas of the Russian merchants. Large and smaller importers of Ceylon tea, firms *established* in Russia and there are many who now keep *stocks* of Ceylon tea, are certainly not complaining of my underselling them, on the contrary, being now forced to deal in *Ceylon* tea as a recognized article of Russian trade, they are very pleased with my advertisements.

I am making for Christmas a new line of advertisement, viz., giving away as presents very pretty little *tea pots* with the words "*Ceylon Tea*" and instructions as to its preparation and my name as your representative printed on the sides and lids. These tea pots to the number of 5,000 will be distributed through my own magazines, and also by my agents in the Provinces.

I have been very busy of late and unable to finish my report and accounts of the Nijni Exhibition, but they will soon follow.

You can use your discretion as to publishing this letter, personally I should like it.—Believe me, dear sir, yours faithfully, (Signed) M. ROGIVUE.

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## SILK CULTIVATION IN CEYLON.

Gammadua, 11th Jan.

DEAR SIR,—When writing you on this subject some months ago, I mentioned that a supply of Japanese eggs was expected. I am glad to say they have arrived in excellent order. I shall be happy to supply small quantities to owners of mulberry trees who may be willing to rear the worms. These varieties will do best in our higher districts.—Yours faithfully,

PERCY N. BRAINE.

[We wish Mr. Braine all success.—ED. *T.A.*]

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## CEYLON TEA IN AMERICA.

Drayton, Jan. 20.

DEAR SIR,—The interest of the enclosed letter from Mr. Mackenzie will, I hope, allow you to grant the space required for its publication. In the part excised he complains of a delay in the advice of further funds. This delay was caused by the routine required under the Ordinance, that "the proceeds of the said levy be subject to the approval of the Governor in Executive Council." The Committee met on December 12, passed the vote, and received the sanction required on the 30th. On the 31st December a telegraphic credit was sent, and was acknowledged by Mr. Mackenzie under date January 1st.

Considering the intervention of Christmas holidays, and probable dispersal of the Council at the time, though I regret the delay, I cannot consider it excessive.

I am in receipt from a well known firm of the enclosures. (Marked A.) They write "the teas referred to are being shipped by us. I need only add that the firm mentioned seems determined to push Ceylon tea, and think they deserve the support of the Tea Fund which Mr. Mackenzie has already given them to some extent."

I would also draw public attention to Messrs. Gow Wilson and Stanton's report (Enclosure B), and send you for your inspection a few ads, arrived by this mail, showing the extent of ground covered. Any firms, who can convince our Agents of their desire and ability to push Ceylon teas, and influence trade, are in equally favoured position as to receiving assistance. Mr. Mackenzie, with his local knowledge, can however, be trusted to discriminate, but his "allies," are constantly increasing in number.

As this will probably be the last letter which I shall address you, as Chairman, I wish to take the opportunity of thanking you for the kind way in which you have always placed your columns at my disposal, and for the useful discussions contributed for the cause of Ceylon tea. Long may it flourish.—I am, Yours faithfully,

A. W. S. SACKVILLE.

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MR. MACKENZIE'S LETTER.

London, Dec. 31.

Dear Sackville,—Referring to that circular I sent you from the Boston firm you will see they say "only about 10 per cent of the tea used in the States is of the breakfast sort (that is fermented tea) while more than two-thirds of 90 per cent is green tea, the balance being Oolong; which, while black in dry leaf is only slightly fermented, and resembles more in leaf the green tea," etc. This bears out what I have so often written as to the narrowness of the field when we compete with teas used in America. To get any footing among the green tea drinkers advertising is of no use unless we at the same time *demonstrate*, canvass, issue samples, circulars, etc. Now what Colombo house is to undertake that work? If the thing is to be left to private enterprise such work will not be done. The trade will be content with selling China and Japan teas, which need no canvassing nor advertising, and yield more profit. Messrs. ——— and many others, now stimulated by us to push machine-made teas, would, if we stopped now, gradually glide into the trade they found most profitable and least expensive.

Colombo Houses, whatever they may think, would not benefit, and planters would find a really promising field (up to 15,000,000 lb. in two years, I believe) lost to them. To stop at present would be suicidal. After June the matter may be again considered. —— one of our best allies came over to New York, when I was there last, to decide whether his firm should withdraw entirely from America. As you know it was due to our aid that they persevered so long. He told me three weeks ago it would be decided when he returned and reported to his partners, but that the decision would depend on what the Committee did. . . . .

I enclose two of the Committee's advertisements also circulars which are worth studying. I send 4 advertisements showing that "Salada" Ceylon tea is being vigorously pushed there. These advertisements are from 4 different firms. All this is due to the inducement I gave to—to push teas in Buffalo. Can private enterprise shew anything of this sort?

I also send a paper containing a picture and advertisement of the large new store in New York, where so many firms were demonstrating our tea.

In their store in Chicago I found 4 Ceylon tea stalls, where different allies of ours were exhibiting their teas, and giving away cups, samples, directions for making, etc. You will notice a picture of the Ceylon branch in the corner. In Boston, Toronto, Buffalo, Detroit, Chicago, Pittsburg and Philadelhhia I found our friends pushing direct to the consumer in many ways. In Philadelphia I found Miss Parkinson, the Ceylon lady I sent out to our best American allies, running an immense exhibit in a food store, with fourteen girls assisting her It was the first thing of the kind I have seen in America. Hundreds tasted the teas daily, were shewn how to make them, were given samples, and large quantities of packets were being sold. The ubiquitous Tetley had a booth also. Our Pittsburg advertising and assistance has made 5 wholesale firms advertise our teas there, and they can be bought in about 600 shops in Pittsburg, Alleghany (separated only by the river) Homestead, and other suburbs. How many years would it take private enterprise in Colombo to do this?

Private enterprise executes orders, but with the exception of—no Colombo merchant does any more

There was such a great rise in shipments to "other countries" last year of both Ceylons and Indians, that no rise was anticipated this year, but it is believed the figures will shew

| 1894 | 1895 | 1896. | |
|---|---|---|---|
| 28 | 38 | 42 | millions of lbs. |

It is difficult to get American figures; but I anticipate no rise in imports, although a great increase in *consumption*. Large stocks were on hand at the beginning of the year, then the Presidential election damped energy, and no new article had any chance. But during the last quarter shipments were very large. In fact there has been a rush of orders from the States and Canada, many of which have not yet been executed.

I think it will be found that London shipments of Indian teas to America were nearly as large in November as during the previous six months.—Yours truly,

(Signed) WM. MACKENZIE.

A. W. S. Sackville, Esq.,
Chairman, Thirty Committee.

The enclosures "A" are copies of circulars issued by Messrs. Franklin MacVeagh & Co., on behalf of "Naban Unfermented Ceylon Tea" as "the finest and most delicious tea ever offered to lovers of choice teas."

The enclosure "B" readers are already familiar with being Messrs. Gow, Wilson and Stanton's circular which we issued as a Supplement on Tuesday.

The advertisements are copies of attractive notices extolling our staple product, one having a coloured picture of a native boy gathering tea leaf.

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## RHEA.

London, E.C.

Sir,—I have from time to time noticed interesting and valuable correspondence in the Press concerning the above fibre and my attention has been specially drawn to recent correspondence on the subject in the *Ceylon Observer*. The success of this unrivalled Fibre has been greatly retarded by a simple but all-important matter. Kindly grant me a little space for the purpose of clearly putting tho present position before your readers.

There has long been a link missing in the commercial chain between the rhea grower and the manufacturer, hence the troubles and difficulties experienced for many years in introducing the Fibre. The grower has produced an article called "Ribbons;" which the purchaser has not been able to utilise practically; consequently both have been discouraged: the former because his product has neither obtained nor merited the commercial classification in the fibre market necessary for ensuring profit on the growth, and the latter because he has not seen his way to invest the necessary capital in new machinery for manufacturing a fibre offered him in a form that as a practical man he cannot accept and the supplies of which have heretofore been very irregular, both in quality and quantity.

Ribbons are the stems of tho plant freed from most of the internal woody pith. They contain the coagulated juice of the stem, called "gum," some of the woody pith and all the outer cuticle or pellicule, which has for years been the despair of the machine maker and the chemist. When dry it assumes a brown colour and adheres to the fibre by a peculiarly tenacious gum, insoluble except under very severe chemical treatment.

The position viewed commercially, may be stated as follows —

The Ribbons contain an enormous percentage of useless material, very difficult to eliminate in the dry state and on which freight and carriage have to be paid. Furthermore they cannot be properly compressed into bales suitable for cheap transport to this country, as the cubic measurement is out of all proportion to the weight.

Fibre Brokers, experts in the classification and valuation of Fibres, have not been able to classify ribbons and give them a practical market quotation for tho simple reason that they represent an unknown quantity, it being impossible to know by ordinary tests what percentage of Fibre they contain what loss of weight will result through subsequent treatment, nor of what quality the Fibre will ultimately prove to be, as regards strength, length, lustre, ductility, etc.

A moment's reflection will show that the link so long missing must be a machine capable of extracting the clean fibre direct from the green Rhea stems and removing every particle of wood, the great bulk of the gum, and the outer cuticle, so obstinate when dry.

The Link is no longer missing. A French Engineer has produced a Machine which, in the opinion of Experts places the Rhea Fibre question on an absolutely new footing and ensures the commercial success of this magnificent Fibre. By means of this Machine the natives on the Plantations are able *by one operation* to transform the green stems into clean fibre, which when dry can be packed under great pressure into bales, in the same way that Manilla, Sisal Hemp and other fibres are packed, and forwarded to the Manufacturer at a very small cost for freight, carriage, etc.

The practical result of the new Machine is that the fibre it produces obtains a proper classification and price quotations in the market, Mr. Faure has important machine making works, large means, is an experienced scientific engineer and grows Rhea on his own estate. His first machine produced ribbons and gained the gold medal at Paris in 1889, Great success has crowned his efforts. His two crops of Rhea in July and October were decorticated by the new machines in the presence of many experts in this fibre. The results were marvellous. I send you a post sample of the fibre just as it left the machine. Chemical inventors have had to face a very difficult problem in endeavouring to deal with rhea ribbons containing a condsiderable amount of woody particles and of coagulated juice called "gum" and especially the dreaded outer skin or cuticle. The greatest evil in connection with many of the degumming processes in the after effect of the chemical treatment on the fibre itself. Rhea fibre has five leading qualities—enormous strength—splendid lustre—extreme fineness—great ductility and wonderful adaptability for taking and retaining colours. All these qualities are liable to be very injuriously attacked by the action of the chemicals employed in the majority of degumming processes. Many cases have occurred where the damage has developed only after some months, when the goods manufactured from rhea have been found to be rotten, or the lustre quite gone. Now that ribbons are doomed to disappear and the actual rhea fibre takes their place, the degumming part of the business assumes an entirely different aspect, because the fibre needs only to be freed from the little gum that is left in it, which can be done, either in India or Europe at a very cheap rate by a simple process, absolutely independent of all patents. The fibre can be degummed in 2½ hours at a cost of less than £3 per ton. In this matter I am not giving my opinion, but stating facts, based on practical working in France. The question of the cultivation of rhea in India is thus completely metamorphosed. Practical machines can be bought at a moderate price (£36) to extract the rhea fibre from the stems in one operation on the plantations. This fibre when dry can be packed in bales and forwarded to the European markets, where it at once obtains a classification and can be sold at a very remunerative price. Contracts can easily be made for immense quantities of fibre, seeing that the grower is now sure of his production of fibre and the Manufacturer can be equally assured of his supply of raw material.—Your obedient servant,

MANUFACTURER.

[If the machine is capable of accomplishing all that is claimed for it and if it is once made clear that the indigenous plant in Northern Bengal is not likely to swamp markets and prices, those who have already gone in for its culture in Ceylon might extend the area of rhea with advantage.—Ed. *T.A.*]

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## USEFUL PLANTS AGAINST MALARIA AND INSECT PESTS.

Dear Sir,—It is a known fact that there are many members of the Vegetable Kingdom (trees, plants, shrubs, orchids, and parasites,) some indigenous to Ceylon, possessing properties which enable them to ward off malaria and absorb noxious gases, detrimental to animal life. Yet how many of them are known? How many utilized? A common plant known to the Sinhalese as *Maduru Tala* and to Botanists as the *Ocymum Sanctum*, so named from its being found in the precincts of almost every Hindu and Buddhist temple in Ceylon and India is well known either from its inhaling or exhaling powers, to effectually keep away malaria, and although (speaking for ourselves) so many hotbeds of fever of different types, exist in our midst, has this humble plant been even given a trial?

The leaves of this plant have a strong aromatic smell, which the Sinhalese assert is noxious to the *Madura* or *Mosquito*, and they hang clusters of branches over their sleeping places, in order to rid themselves of these nocturnal pests.

Plants of the Madurutala are easily procurable and could be successfully grown in pots.—Yours truly,

HOUSEHOLDER.

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## MAURITIUS GRASS: THE GREAT FODDER PLANT.

SIR,—During the past few years the cultivation of Mauritius or water grass (*Panicum Molle*) has immensely increased, every available space has been taken advantage of. Cinnamon has been uprooted and large tracts of ground which were before entirely reserved foi the spicy shrub, are fast disappearing, to make room for the great fodder plant which sustains our *equine* and *bovine* stock. Yet the demand for grass is not equal to the supply and resort has to be had to imported hay and chaff. Besides the regular daily supply to houses in the town and its suburbs, numerous carts heavily laden with grass, wend their way every evening to the Municipal and other markets, in the Pettah, Slave Island, Kollupitiya, Grandpass, &c., where a brisk trade is carried on. Each bundle is priced at 3 cents, and before nightfall almost every bundle is sold; these sales are almost entirely confined to the natives who own and hire carts and hackeries. Apart from the sale of this (imported variety) grass, there is a fairly large quantity of country grass or *Kattu pillu* supplied for the consumption of horses; this trade is exclusively in the hands of the town Menatchies, who thus materially supplement the monthly wage of the town Ramasamies—(their husbands).—Yours truly,

HOUSEHOLDER.

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COFFEE AND TEA IN SOUTHERN INDIA.—The following is an extract from *Planting Opinion*, Jan. 23:—

On the Nelliampatties, we note the average yield of coffee is said to be about 3 cwt. per acre, while on the Lower Pulnics the yield runs out to slightly under 2 cwt. per acre, though it must be noted that almost half of the individual returns in this case are marked as "uncertain, probably considerably underestimated." In Central Travancore the average works out to a little over $1\frac{1}{2}$ cwt. per acre. No figures are given for the other districts. The only figures relating to tea yields are from Travancore. The Central District, with a probable yield of slightly under 1 1-5 million pounds, averages 390 lb. per acre for tea over two years; and South Travancore shows a yield of 360 lb. per acre, or say about 2 million pounds. We assume the total plantation area to be about 650,000 acres, of which 324,540 are cultivated, with coffee (300,900), tea (18,000), and cinchona (6,500). We estimate Mysore at 143,030 acres of coffee, Coorg at 84,000, Nilgiris and Wynaad at 48,000, Shovaroys at 11,000, Travancore at 6,000, Nelliampatties at 5,000 and the Pulnies at 3,000. Of the 18,000 acres of tea we have reckoned that Travancore has about 10,000 acres, the Nilgiris 6,500 and the Wynaad about 1,500 (the figures for the latter district will probably be 3,000 acres at least by the end of the next planting season).

How can there possibly be 300,000 acres kept up under coffee and a total annual export of less than 300,000 cwt. of coffee!

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DEAFNESS. An essay describing a really genuine Cure for Deafness, Ringing in Ears, &c., no matter how severe or long-standing, will be sent post free.—Artificial Eardrums and similar appliances entirely superseded. Address THOMAS KEMPE, VICTORIA CHAMBERS, 19, SOUTHAMPTON BUILDINGS, HOLBORN, LONDON.

## TEA IN MATALE: A BIG YIELD.

Mr. H. Storey has supplied a contemporary with the following figures showing the yield on Warakamure Estate, Matale for a series of years. No manure has been used, and Mr. Storey says, the figures he quotes have been equalled if not exceeded by neighbours:—

Warakamure Estate, Matale, 23rd Jan., 1897.

| Year. | Acreage. | Total crop. | Yield per acre. | Rainfall. |
|---|---|---|---|---|
| 1892 .. | 73 | 52,225 | 715 | 76 inches. |
| 1893 .. | 194 | 134,966 | 695 | 59 ,, |
| 1894 .. | 194 | 136,310 | 702 | 61 ,, |
| 1895 .. | 194 | 157,552 | 812 | 87 ,, |
| 1896 .. | 198 | 196,681 | 993 | 104 ,, |

The year 1894 was characterised by a heavy drought in January, February and March, of 68 days' duration. 1893, though showing a smaller total, had a better distribution.

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## INDIAN TEA SALES.

(From *William Moran & Co.'s Market Report.*)

CALCUTTA, Jan. 27.

The sale of the 21st inst. comprised 11,497 chests, all of which were sold. There was no material change to note in prices. For this week's sale about 10,000 chests are advertised.

Reuter's Telegrams, received since our last, report as follows:—

INDIAN TEA:—

January 21st—Auctions.—"Offered 59,000 packages. Sold 49,000 packages. Firm with a good demand. Average price, 9½d."

CEYLON TEA—.

January 21st—Auctions.—"Offered 23,000 packages. Sold 22,000 packages. Firm. Pekoe souchong, 6d. Average price 8½d."

Total quantity of Tea passed through Calcutta from 1st April to 25th Jan.

| | 1896-97. | 1895-96. | 1894-95. |
|---|---|---|---|
| Great Britain | 127,491,724 | 116,189,865 | 109,371,426 |
| Foreign Europe | 420,358 | 271,085 | 240,144 |
| America | 1,825,853 | 1,071,664 | 548,460 |
| Asia | 4,014,985 | 4,277,740 | 3,598,401 |
| Australia | 5,573,055 | 6,380,521 | 4,692,213 |
| | 139,325,975 | 128,190,875 | 118,450,644 |

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TEA IN CEYLON:—THE YIELD OF THE SCRUBS ESTATE.—Everybody is acquainted with the Scrubs estate. No one can enter or leave Nuwara Eliya without noticing how vigorous its tea appears, and how complete a cover it forms on the steep hill side. Situated at nearly 7,000 feet elevation, the yield per acre is a great deal higher than the average of any district in the island, and higher than that of most estates in the lowcountry. The following figures speak for themselves:—

YIELD OF THE SCRUBS ESTATE.

| | | |
|---|---|---|
| 1894 | .. | 507 lb. per acre. |
| 1895 | .. | 671 ,, ,, |
| 1896 | .. | 667 ,, ,, |

We do not think we are far wrong in saying that this yield on an estate at the great altitude of the Scrubs, and without the aid of manure is more remarkable than even the yield from the 101-acre field in Mariawatte, seeing that the latter can be matched in India, we believe, but we do not know of any estate at 7,000 feet in India, or elsewhere, giving the fine field which the Scrubs estate is doing. We may add that the average yield for the nineteen estates belonging to the Ceylon Tea Plantations Co. for 1896 was 470 lb. per acre.—Local "Times."

## COLOMBO PRICE CURRENT.

*(Furnished by the Chamber of Commerce).*

Colombo, Feb. 2nd, 1897.

EXCHANGE ON LONDON: CLOSING RATES, *Bank Selling Rates*:—On demand 1/3¼ to 9-32; 4 months' sight 1/3 9-32 to 5-16; 6 months' sight 1/3 5-16 to 11-32.

*Bank Buying Rates*:—Credits 3 months' sight 1/3½ to 17-32 6 months' sight 1/3 7-16 to 16-32 Docts 3 months sight 1/3 17-32 to 9-16 6 months' sight 1/3 16-32 to ⅝.

COFFEE.—Plantation Estate Parchment on the spot per bus., R17·00. Estate Crops in Parchment, delivery no quotations. Plantation Estate Coffee, f.o.b. on the spot per cwt. R85·00. Liberian parchment on the spot per bushel, R11·50. Garden and Chetty Coffee, f.o.b. per cwt. no quotations. Native Coffee f.o.b. per cwt. R70·00.

TEA.—Average Prices ruling during the week Broken Pekoe, per lb. 45c. Pekoe per lb. 36c. Pekoe Souchong per lb. 26c. Broken mixd and Dust, per lb. 19c. Averages of Wednesday's sale.

CINCHONA BARK.—Per unit of Sulphate of Quinine per lb 03c.—1 to 6%

CARDAMOMS.—per lb, R2·00 to R2·00

COCONUT OIL.—Mill oil per cwt. no quotations Dealers' oil per cwt.—13·75.—Nominal Coconut oil in ordinary packages f.o.b. per ton R315·00.—Nominal.

COPRA.—Per candy of 560 lb R46·00 to 46·00.

COCONUT CAKE: (Poonac) f.o.b. per ton, R65·00,,

COCOA.—Unpicked and undried, per cwt. R37·00.

COIR YARN.—Nos. 1 to 8 { Kogalla per cwt. R9 to 18; Colombo ,, R7 to 14.

CINNAMON.—Nos. 1 & 2 only f.o.b. 64c.

Do Ordinary Assortment, per lb 59½c.

EBONY.—per ton R125·00 At Govt. sales.

PLUMBAGO:—Large Lumps per ton, R130 to 310

Ordinary Lumps per ton, R130 to 260.

Chips per ton, R70 to 120. Dust per ton, R30 to 90

RICE.—Soolye per bushel, no quotations.

,, per bag, R3·85 to R4·00.

Pegu and Calcutta Calunda R9·75 to R11·00.

Coast Calunda per bushel, R3·90 to 4.20

Muttusamba per bushel, R3·95 to R4·90.

Kadappa and Kuruwe per bushel, R3·75 to 4·10.

Rangoon Raw 3 bushel bag —R13·00

FREIGHTS.

| Cargo. | Per ton London per str. | N. York per str. | Trieste per str. | Mar'lles per str. | Hamb', Bremen &c. |
|---|---|---|---|---|---|
| | s. d. | s. d. | s. d. | fr. c. | s. d. |
| Tea | 20/ | 32/6 | 22/6 | 25 | 20/ |
| Coconut Oil | 20/ | .. | 22/6 | .. | 20/ |
| Plumbago | 15/ | .. | 20/ | .. | 20/ |
| Coconuts in bags | 17/6 | .. | 20/ | .. | 20/ |
| Other Cargo | 20/ | .. | 20/ | .. | 20/ |
| Broken Stowage | 10/ | .. | .. | .. | .. |
| SAILERS. | | | | | |
| Coconut Oil | .. | 30/ | .. | .. | .. |
| Plumbago | .. | 28/9 | .. | .. | .. |
| | | | | Genoa | 20/ |

## LOCAL MARKET.

*By Mr. A. M. Chittambalam, 7, Baillie St., Fort.*

Colombo, Feb. 2nd 1897.

Garden Parchment :— Scarce per bushel
Chetty do :— (Nominal) R15 to 15·50 do
Native Coffee Scarce:— R65·00 to 66·00 per cwt
do f.o.b. do :— R70·00 to 71·00 do
Liberian Parchment, 12·50 per bushel (nominal)
do Coffee 63·00 to 64 00 per cwt
CARDAMOMS.— 1·75 to 2.50 per lb (nominal)
COCOA.—(nominal) 20·00 to 32 00 per cwt do
RICE.—Market is steady :—
Kazla R9·25 to 9·50 per bag
Soolye 10·25 to 10.75 do
Scarce
Coast Callunda 4·00 to 4·12 per bushel
Kara 3·85 to 4 do
Muttusamba 4·25 to 4·50 do

CINNAMON.—Quoted Nos. 1 to 4, at 60c and Nos. 1 and 2 63 cents per lb (nominal)

CHIPS.—R85·00 to 87·50

COCONUTS.—Ordinary R35·00 to 40·00 per 1,000 (nominal)
do Selected 41·00 to 43·00 do do
COCONUT OIL.— 13·75 to 14·25 per cwt do
COPRA.—Market steady :—
Kalpitiya R42·00 to 43·00 per candy
Marawila 40·00 to 41·00 do
Cart Copra 34·00 to 38·00 do
POONAC.—Gingelly 80·00 to 87·50 per ton
Chekku 85·00 to 90·00 do
Mill (retail) 75·00 to 80·00 do
EBONY.—quotations at R100 to R195 (nominal)
SATINWOOD.—cubic feet 2·00 to 2·25 do
HALMILLA.— do 1·25 to 1·50 do
KITUL FIBRE.—Quoted at R28·00 per cwt (nominal)
PALMYRA FIBRE.—Quoted nominally :—
Jaffna Black.—Cleaned (Scarce)
do Mixed R17·00 to 18·00 per cwt.
Indian do R7·00 to 9·00 do
Do Cleaned 10·00 to 14·00
SAPAN WOOD.—Quoted 45·00 to 50·00 per ton
KEROSINE OIL—American 7·50 to 7·55 per case
do Bulk Russian 2·79 to 2·84 per tin
do Russian in Cases R5·90 to 5·95per case
KAPOK.—Cleaned f. o.b :— R29·00 to 30·00 per cwt
do Uncleaned 8·00 to 9·00 do
Croton Seed Scarce do
Nux Vomica 2·50 to 3·00 do

## CEYLON EXPORTS AND DISTRIBUTION 1897.

| COUNTRIES. | P'bago 1897 cwt. | Coconut Oil 1896 cwt. | Coconut Oil 1897 cwt. | Cinnamon. Chips lb. | Cinnamon. Bales lb. | C'moms lb. | Cocoa cwt. | Tea 1896 lb. | Tea 1897 lb. | Cinchona. 1897 B'nch & Trunk lb | Coffee cwt. Total. | Coffee cwt. N'tive | Coffee cwt. Plantation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| To United Kingdom | 2581 | 8057 | 7108 | 6856 | 12476 | 14364 | 4424 | 6289570 | 5210053 | 16273 | 736 | .. | 736 |
| ,, Austria | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| ,, Belgium | 1307 | 705 | .. | 6216 | .. | .. | .. | 1250 | .. | .. | .. | .. | .. |
| ,, France | 101 | .. | .. | 560 | 15000 | .. | 44 | 2278 | 12658 | .. | .. | .. | .. |
| ,, Germany | 600 | 2342 | .. | .. | .. | .. | .. | 8212 | .. | .. | .. | .. | .. |
| ,, Holland | .. | .. | .. | .. | .. | .. | .. | .. | 3705 | .. | .. | .. | .. |
| ,, Italy | .. | 103 | .. | .. | .. | .. | .. | 1000 | 115 | .. | .. | .. | .. |
| ,, Russia | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| ,, Spain | .. | .. | .. | .. | .. | .. | .. | | 500 | .. | .. | .. | .. |
| ,, Sweden | .. | .. | .. | .. | .. | .. | .. | .. | 1600 | .. | .. | .. | .. |
| ,, Turkey | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| ,, India | .. | 21 | 3777 | .. | 61 | .. | 2 | 7138 | 33406 | .. | .. | .. | .. |
| ,, Australia | 77 | .. | .. | .. | .. | .. | .. | 507345 | 731833 | .. | 212 | .. | 212 |
| ,, America | 2257 | .. | 4010 | .. | 10000 | .. | .. | 40042 | 66866 | .. | .. | .. | .. |
| ,, Africa | .. | .. | .. | .. | .. | .. | .. | 6910 | 6392 | .. | .. | .. | .. |
| ,, China | .. | .. | .. | .. | .. | .. | .. | .. | 3350 | .. | 5 | .. | 5 |
| ,, Singapore | .. | .. | .. | .. | .. | .. | .. | .. | 1195 | .. | .. | .. | .. |
| ,, Mauritius | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| ,, Malta | .. | .. | .. | .. | .. | .. | .. | 12750 | .. | .. | .. | .. | .. |
| Total export from 1st Jan. to 2nd Feb. 1897 | 6923 | | 14895 | 13632 | 149237 | 14364 | 4470 | | 6071673 | 16273 | 953 | .. | 953 |
| do 1896 | 9582 | | 11228 | 71312 | 145570 | 10968 | 1751 | | 6876495 | 70677 | 1712 | 91 | 1621 |
| do 1895 | 7224 | | 18700 | 17950 | 123104 | 15076 | 2377 | | 7686644 | 46845 | 5404 | .. | 5404 |
| do 1894 | 19404 | | 24950 | 58067 | 125162 | 30758 | 2563 | | 7067723 | 311885 | 2931 | .. | 2631 |

## MARKET RATES FOR OLD AND NEW PRODUCTS.

*(From Lewis & Peat's Fortnightly Prices Current, London, January 19th, 1897.)*

| | QUALITY. | QUOTATIONS. |
|---|---|---|
| ALOES, Socotrine .. | Fair to fine dry ... | 41s a 100s |
| Zanzibar & Hepatic | Common to good .. | 11s a 76s |
| BEES' WAX, | | |
| Zanzibar & Bombay White .. | Good to fine ... | £7 a £8 |
| Yellow... | Fair .. | £6 a £6 10s |
| Mauritius & Madagascar.. | Dark to good palish . | £5 15s a £6 5/ |
| CAMPHOR, China .. | Fair average quality ... | 112s 6d |
| Japan .. | ,, ,, nom... | 117s 6d |
| CARDAMOMS, Malabar.. | Clipped, bold, bright, fine | 3s 1d a 3s 2d |
| | Middling, stalky & lean | 2s 9d a 2s 11d |
| Ceylon.—Mysore ... | Fair to fine plump .. | 4s a 4s 3d |
| | Seeds .. | 3s 8d a 4s |
| ,, Tellicherry... | Good to fine ... | 2s 9d a 3s 6d |
| | Brownish .. | 2s 6d a 3s |
| ,, Long .. | Shelly to good ... | 2s 6d a 2s 8d |
| ,, Mangalore . | Med brown to good bold | 4s 3d a 4s 6d |
| CASTOR OIL, Calcutta.. | 1sts and 2nds ... | 3½d a 4½d |
| Madras ... | ... | 3½d |
| CHILLIES, Zanzibar ... | Dull to fine bright .. | 27s 6d a 42s 6d |
| CINCHONA BARK.— | | |
| Ceylon ... | Ledgeriana Chips ... | 1d a 3½d |
| | Crown, Renewed .. | 2d a 4½d |
| | Org. Stem | 1¼d a 3d |
| | Hybrid Root ... | 2¼d a 2½d |
| | Chip ... | 1¼d a 2d |
| CINNAMON, Ceylon 1sts | Ordinary to fine quill... | 11d a 1s 7d |
| 2nds | ,, ,, ... | 10½d a 1s 5d |
| 3rd | ,, ,, .. | 10d a 1s 4d |
| 4th | ,, ,, . | 9½d a 1s |
| Chips | Fair to good . | 2⅝d a 3¾d |
| CLOVES, Penang ... | Dull to fine bright bold | 4¼d a 10d |
| Amboyna .. | Dull to fine .. | 5d a 4½d |
| Zanzibar and Pemba | Good and fine bright | 2¼d a 2¾d |
| | Common dull to fair .. | 2d a 2 3-16d |
| Stems .. | Fair .. | 1d |
| COCULUS INDICUS ... | Fair ... | 8s |
| COFFEE ... | | |
| Ceylon Plantation | Bold to fine bold colory | 112s a 123s |
| | Middling to fine mid | 103s a 110s |
| | Low mid. and low grown | 97s a 102s |
| | Smalls ... | 88s a 92s 6d |
| Native ... | Good ordinary .. | 70s a 86s |
| Liberian ... | Small to bold .. | 70s a 80s |
| COCOA, Ceylon .. | Bold to fine bold ... | 63s 6d a 75s |
| | Medium and fair .. | 55s a 62s |
| | Triage to ordinary ... | 30s a 50s |
| COLOMBO ROOT... ... | Fair to good .. | 25s a 27s |
| COIR ROPE, Ceylon ... | | nominal |
| Cochin .. | Ordinary to fair | £10 a £23 |
| FIBRE, Brush .. | Ord. to fine long straight | £10 a £21 |
| Cochin ... | Ordinary to good clean | £16 a £20 |
| Stuffing .. | Common to fine | £5 a £6 10s |
| COIR YARN, Ceylon .. | Common to superior | £12 a £26 10s |
| Cochin ... | .. .. very fine .. | £12 a £34 |
| do. .. | Roping, fair to good | £11 10s a £15 |
| CROTON SEEDS, sifted... | Fair to good ... | 77s 6d a 80s |
| CUTCH ... ... ... | Fair to fine dry .. | [illegible]s 3d a 3[illegible]s 6d |
| GINGER, Bengal, rough | Fair ... | 15s 6d |
| Calicut, Cut A | Good to fine bold .. | 81s a 85s |
| B & C | Small and medium . | 32s a 74s |
| Cochin Rough... | Common to fine bold | 27s a 35s |
| | Small and D's .. | 10s a 25s |
| Japan .. | Unsplit ... | 15s 6d |
| GUM AMMONIACUM .. | Sm. blocky to fine clean | 17s a 36s 6d |
| ANIMI, Zanzibar... | Picked fine pale in sorts | £10 7s 6d a £13 |
| | Part yellow and mixed | £7 17/6 a £10 10s |
| | Bean and Pea size ditto | 70s a £7 12/6 |
| | Amber and dk. red bold | £5 10s a £7 10s |
| | Med. & bold glassy sorts | 90s a 137s 6d |
| Madagascar ... | Fair to good palish .. | £4 8s a £6 15s |
| | ,, ,, red . | £4 5s a £9 |
| ARABIC E. I. & Aden ... | Ordinary to good pale | 50s a 60s |
| Ghatti .. | Pickings to fine pale .. | 25s a 60s |
| Kurrachee | Good and fine pale ... | 55s a 60s |
| | Reddish to pale selected | 35s a 45s |
| Madras ... | Dark to fine pale .. | 37s 6d a 45s |
| ASSAFŒTIDA .. | Clean fr to gd. almonds | 40s a 70s |
| | Ord. stony and blocky | 30s a 37s |
| KINO .. | Fine bright .. | £45 a £55 |
| MYRRH, picked .. | Fair to fine pale .. | 80s a 90s |
| Aden sorts | Middling to good | 53s a 65s |
| OLIBANUM, drop ... | Good to fine white .. | 31s a 60s |
| | Middling to fair | 20s a 31s |
| pickings | Low to good pale .. | 1s a 12s 6d |
| siftings | Slightly foul to fine .. | 9s 6d a 14s |
| INDIARUBBER, Assam | Good to fine | 1s 10d a 2s 4d |
| | Common to foul & mxd | 5d a 1s 6d |
| Rangoon ... | Fair to good clean .. | 1s 4d a 2s 1d |
| Borneo ... | Common to fine .. | 1s a 1s 8d |
| INDIARUBBER, (Contd). | | |
| Java, Sing. & Penang | Foul to good clean .. | 1s 3d a 2s 3d |
| Mozambique | Good to fine Ball | 2s 2d a 2s 6d |
| | Ordinary to fair Ball | 1s 2d a 2s 1¾d |
| | Low sandy Ball . | 10d a 1s 1d |
| | Sausage, fair to good | 1s 4d a 2s 5½d |
| | Liver and livery Ball . | 1s 3½d a 2s 1½d |
| Madagascar | Fr to fine pinky & white | 1s 11d a 2s 5d |
| | Fair to good black .. | 1s 3d a 1s 10d |
| | Niggers, low to good... | 10d a 1s 5d |
| INDIGO, E.I. .. | Bengal— | |
| | Shipping mid to gd violet | 4s 4d a 5s 1d |
| | Consuming mid. to gd. | 3s 4d a 4s 1d |
| | Ordinary to mid. good | 2s 8d a 3s 2d |
| | Mid. to good Kurpah... | 2s a 2s 10d |
| | Low to ordinary | 1s 3d a 1s 11d |
| | Mid. to good Madras . | 1s 4d a 2s 6d |
| MACE Bombay, & Penang | Pale reddish to fine .. | 1s 7d a 2s 9d |
| | Ordinary to fair .. | 1s 2d a 1s 6d |
| | Chips and dark | 11d a 1s 1d |
| MYRABOLANES, Madras | Dark to fine pale UG .. | 3s 9d a 5s 6d |
| | Fair Coast .. | 4s 6d |
| Bombay .. | Jubblepore ... | 4s a 6s 6d |
| | Bhimlies ... | 4s 3d a 7s 6d |
| | Rhajpore &c. ... | 4s a 6s |
| Bengal .. | Calcutta ... | 4s a 6s |
| NUTMEGS— | 64's to 57's .. | 3s a 3s 2d |
| Bombay & Penang | 112's to 67's ... | 1s 1d a 2s 11d |
| | 160's to 130's ... | 9d a 1s |
| NUTS, ARECA ... | Ordinary to fair fresh | 12s a 14s |
| NUX VOMICA, Bombay | Ordinary to middling .. | 4s 6d a 6s |
| Madras | Fair to good bold fresh . | 6s a 7s 6d |
| | Small ordinary and fair | 4s 6d a 7s |
| OIL OF ANISEED ... | Fair merchantable ... | 6s 9d |
| CASSIA .. | According to analysis . | 6s 6d a 9s |
| LEMONGRASS .. | Good flavour & colour .. | 2⅝d |
| NUTMEG .. | Dingy to white ... | 3½d a 4d |
| CINNAMON ... | Ordinary to fair sweet .. | 4d a 1s 3d |
| CITRONELLE .. | Bright & good flavour | 1s 1½d a 1s 2d |
| ORCHELLA WEED— | | |
| Ceylon .. | Mid. to fine not woody . | 10s a 12s 6d |
| Zanzibar. .. | Picked clean flat leaf .. | 10s a 20s |
| | ,, wiry Mozambique | 15s a 17s 6d |
| PEPPER - (Black)— | | |
| Alleppee & Tellicherry | Fair to bold heavy ... | 2⅝d a 2½d |
| Singapore ... | Fair ... ... ... | 2½d |
| Acheen & W. C. Penang | Dull to fine .. | 2d a 2⅜d |
| PLUMBAGO, lump .. | Fair to fine bright bold | 15s a 17s 6d |
| | Middling to good small | 3s 6d a 13s |
| chips .. | Dull to fine bright | 1s 6d a 8s 9d |
| dust .. | Ordinary to fine bright | 2s a 6s |
| SAFFLOWER ... | Good to fine pinky ... | 85s a 90s |
| | Middling to fair .. | 80s |
| | Inferior and pickings .. | 60s a 65s |
| SANDAL WOOD— | | |
| Bombay, Logs | Fair to fine flavour .. | £30 a £50 |
| Chips | ... ... ... ... | 5s a £3 |
| Madras, Logs | Fair to good flavour .. | £30 a £50 |
| Chips | Inferior to fine | £4 a £8 |
| SAPAN WOOD, Bombay | Lean to good ... | £4 a £5 |
| Madras | Good average ... | £4 a £5 nom |
| Manila | Rough & rooty to good | £4 10s a £5 15s |
| Siam | bold smooth .. | £6 a £7 |
| SEEDLAC .. | Ord. dusty to gd. soluble | 70s a 80s |
| SENNA, Tinnevelly .. | Good to fine bold green | 4d a 8d |
| | Fair middling medium | 2¼d a 4½d |
| | Common dark and small | 1d a 2d |
| SHELLS, M. o'PEARL— | | |
| Bombay .. | Bold and A's ... | £4 a : 4 |
| | D's and B's ... ... | £4 12s 6d a £4 15s |
| | Small ... ... ... | 85s |
| Mussel .. | Small to bold ... | 21s a 57s 6d |
| TAMARINDS, Calcutta . | Mid. to fine bl'k not stony | 9s |
| Madras ... | Stony and inferior .. | 6s a 7s |
| TORTOISESHELL— | | |
| Zanzibar and Bombay | Small to bold dark mottle part heavy | 17s a 21s 6d |
| TURMERIC, Bengal ... | Fair .. .. | 8s 6d a 9s |
| Madras ... | Finger fair to fine bold | 11s 6d a 12s |
| Do. | Mixed midlng. [bright | 10s 6d |
| Do. | Bulbs .. .. .. | 8s a 9s |
| Cochin ... | Finger .. .. .. | 10s |
| | Bulbs ... .. .. | 7s 6d a 8s |
| VANILLOES— | | |
| Mauritius and Bourbon ... 1sts | Gd. crystallized 3½ a 9 in. | 19s 6d a 33s |
| 2nds | Foxy & reddish 4½ a 8 ,, | 17s a 22s |
| Seychelles 3rds | Lean and inferior .. | 10s a 16s |
| VERMILION . | Fine, pure, bright ... | 2s 1½d |
| WAX, Japan, squares | Good white hard ... | 39s 40s |

THE

# AGRICULTURAL MAGAZINE,

## COLOMBO.

*Added as a Supplement Monthly to the "TROPICAL AGRICULTURIST."*

The following pages include the Contents of the *Agricultural Magazine* for February :—

Vol. VIII.] FEBRUARY, 1897. [No. 8.

### SEASON REPORT FOR DECEMBER.

W*ESTERN PROVINCE.*—Maha paddy in blossom or in ear, fair supply of fruits and vegetables in the Colombo district, but scarce in Negombo and Kalutara. Rainfall generally above the average. Harvest prospects fair.

*Central Province.*—Paddy crop in various stages, much damage done by rain in the Matale district, prospects good in the Kandy district, very promising in the Nuwara Eliya district. Rainfall above normal. Health of cattle good, some hoof disease in Laggala.

*Northern Province.*—In the Mannar district the rainfall was unprecedented, in Mannar town rainfall 19·05 in. Paddy and dry grain in ear, what was not washed away in good condition.

*Southern Province.*—Ploughing and sowing for Maha crop going on in Hambantota district, vegetables plentiful, and food supply sufficient. Health of cattle good, some hoof disease in Walasmulla.

*Eastern Province.*—Munmari crop much damaged by rain; Indian corn, kurakkan and tobacco also damaged. Rainfall in Batticaloa, 19·18 in., in Trincomalee, 27·58 in. A gale on the 15th caused much damage, many houses and over 700 coconut trees having been blown down.

*North-Western Province.*—Though much damage caused by rain, generally speaking prospects fair. Rainfall in Puttalam, 11·55 in. The excessive rain has done most damage in the Chilaw district.

*Province of Uva.*—Heavy rain all throughout the Province, harvests prospects in Wiyaluwa good, health of cattle good.

*Province of Sabaragamuwa.*—In many parts of the Ratnapura district, Maha crops coming into maturity, in Kolonna Korale fields just being prepared. Lowlying fields have suffered on account of too much rain. In the Kegalla district, paddy prospects are good in spite of some damage by rain. Dry grain prospects satisfactory. Health of cattle good.

### RAINFALL TAKEN AT THE SCHOOL OF AGRICULTURE DURING THE MONTH OF DECEMBER, 1896.

| | | | | | |
|---|---|---|---|---|---|
| 1 | Tuesday | Nil | 19 | Saturday | ·03 |
| 2 | Wednesday | Nil | 20 | Sunday | ·29 |
| 3 | Thursday | Nil | 21 | Monday | 1·45 |
| 4 | Friday | Nil | 22 | Tuesday | ·40 |
| 5 | Saturday | ·33 | 23 | Wednesday | .05 |
| 6 | Sunday | ·68 | 24 | Thursday | 2·40 |
| 7 | Monday | ·93 | 25 | Friday | ·85 |
| 8 | Tuesday | ·23 | 26 | Saturday | Nil |
| 9 | Wednesday | 1·47 | 27 | Sunday | ·80 |
| 10 | Thursday | Nil | 28 | Monday | Nil |
| 11 | Friday | Nil | 29 | Tuesday | ·05 |
| 12 | Saturday | Nil | 30 | Wednesday | Nil |
| 13 | Sunday | Nil | 31 | Thursday | Nil |
| 14 | Monday | Nil | 1 | Friday | Nil |
| 15 | Tuesday | ·03 | | | |
| 16 | Wednesday | 1·80 | | Total | 14·19 |
| 17 | Thursday | 2·00 | | Mean | ·45 |
| 18 | Friday | ·40 | | | |

Greatest amount of rainfall in any 24 hours—on the 24th day of December, 2·40 inches.

Recorded by A. R. JEREMIAH.

## OCCASIONAL NOTES.

*Errata.*—In record of rainfall for November given in our last issue, for 1·6 given on the 20th of the month read ·16, the mean rainfall should be ·67 in.

The present issue deals largely with the subject of cattle-plague, containing both local and foreign contributions with reference to the scourge. Its terrible ravages in South Africa have no doubt been the cause of bringing it to the notice of the great German bacteriologist, Dr. Koch, as well as, it is said of the Royal Society. We can but hope that some good will come of the fresh enquiries as to the possible preventive measures (for treatment of any sort is said to be "playing with fire") against a disease which causes so much loss in the villages of Ceylon.

The present number brings to a close the account of "Nitragin" or "Pure Cultivation Bacteria" for the inoculation of leguminous crops. The account has run through several issues, but we doubt not that many of our readers have been glad of the opportunity of becoming thoroughly acquainted with a subject which refers to an important discovery in Agricultural Science, that has been much written about and discussed in Agricultural Journals, and may possibly come to be intimately connected with the everyday *practice* of agriculture. We may mention that we have placed ourselves in communication with the manufacturers of "Nitragin" at Höchst-on-the-Main, who have kindly replied to our enquiries through their local agents, Messrs. Böhringer. As yet, however, there are but few purely tropical leguminous plants for which the special innoculating material has been prepared, but we hope before long to receive some samples of nitragin for trial on such introduced plants as we grow here.

The Colonial Veterinary Surgeon, Mr. G. W. Sturgess, returned from Karachi on the 19th January, bringing with him 25 well-selected cows for the Government Dairy; and Mr. Hoole, who was doing duty for Mr. Sturgess, in Colombo, has gone back to Anuradhapura. At the end of January, the dairy herd, after having been augmented by the new additions, was constituted as follows:—96 cows, 7 bulls, and 52 calves, bringing up the total of all classes of animals to 155.

Writing under date of 24th December last, the Secretary of "Jadoo Limited" advises us that he is shipping us ½ ton of the fibre packed in 10 bales. He goes on to say that from numerous reports which have reached the Company there can be no doubt that Jadoo is eminently suitable for bringing on supplies, and the matter being of such public interest is their excuse for "troubling" us with a consignment for distribution. Jadoo, he remarks, is in no sense a *forcing* medium, its effect being to encourage *fibrous root* action, and thus to form a strong healthy plant. It is said to have been severely tested in France for "growing on" young vines, and its great value for this purpose may be judged from the facts that the Company is selling many tons to wine growers at Cognac and in the Médoc. We can assure the Company that we do not consider ourselves troubled by them, as we are most anxious to test the valu of Jadoo fibre, and afford our readers an opport nity of giving it a trial. We shall, therefore, be gla to forward samples on application, and also sen copies of a circular of instructions which have been supplied us.

We are glad to find that the editor of the "Ceylon Forester" has determined to continue the publication of the Magazine, and we heartily wish it all success in the future.

The experiment in [illegible] of Agriculture has come [illegible] we should like to make this fact public owing to the numerous enquiries we are receiving with reference to grape growing. The termination of the experiment we should state is not due to failure, (for indeed it was very promising as long as the vineyard was attended to). It is a matter of disappointment to us, as well as to many interested in vine-growing that the experiment could not have been carried on till the vines came into full bearing; but it is at the same time satisfactory to know that the trial at the school has made more than one person venture upon vine-growing. In the case of a "new product" like this the Ceylon Government might well imitate the example of some of the Australian Colonies and offer an annual *bonus* for every acre of vines maintained in an efficient condition during the year, so as to encourage the new industry.

## THE FOREST LAWS OF CEYLON.

*(Continued).*

### VILLAGE FORESTS.

The Governor may by Proclamation in the *Gazette* constitute a portion of forest a village-forest for the benefit of any village community or group of village-communities. (§ 34.)

The rights of any person in or over any village forest was not affected, but power is given to the Governor to direct that claims to any such rights, other than the rights of the village-community or group of village-communities should be inquired into, recorded and provided for in the manner prescribed for settling a Reserved Forest. (§ 37.)

Rules may be made for the management of village-forests, prescribing the conditions under which the community or group of communities for the benefit of which such forest is constituted may be provided with timber or other forest-produce, or with pasture, and what duties the village has for its protection and improvement.

The Government is thus left with a wide discretion either to assume the management itself or partly manage it; or keep its management under control and supervision. The chapter on Village Forests in the Ordinance is so worded that any land which is at the disposal of the Crown may be made a village forest; rights already existing in favour of the village would be no obstacle, and a settlement of rights, where necessary, can be ordered under the usual procedure. Such settlement may be made in the interest of the village, either with reference to rights *other* than those of the village, or with reference to cer-

tain rights of individual villagers which are adverse to the interest of a body as a whole as may be necessary.

The Government have published certain Regulations under section 36 of the Ordinance regarding Village Forests. (Notif. 24, Ap. *Gazette*, May 1, 1896.)

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OF THE PROTECTION OF FORESTS AND FOREST-PRODUCE.

Chapter IV. of the Ordinance deals with the Government control over forests in certain cases.

Unless it is essentially necessary that it should be so, as in the case of constituting Reserved Forests, Government are content to keep the forests in their present state, and it is often found sufficient to prevent their being totally cleared off and cut down, without expropriating the whole estate.

As you are aware it is essential to preserve forests in order to increase the rainfall, and in addition to this there are other reasons which make the interference of the Crown a valid ground in law. The Governor is therefore empowered by Notification in the *Government Gazette* to declare that any tree in any forest is a *reserved* tree. The Ordinance itself (Schedule B.) enumerates certain trees which shall be deemed to be reserved trees. And power is given to the Government Agent to make rules in certain cases whereby persons are authorised to deal with the reserved trees, and authority is also given to a Forest Officer under the authority of the G. A. to grant permission to deal with the reserved trees.

Under section 41 of the Ordinance no person shall clear, set fire to or break up the soil of or make use of the pasturage or of the forest produce of any forest and not included in a reserved or village forest except in accordance with rules which the G.A. may make, subject to the approval of the Governor with the advice of the Executive Council. Such rules may :

(*a*) Regulate or prohibit the cutting of or setting fire to chenas or the issue of grants or leases by Government with respect to land on which trees enumerated in schedule B. of the Ordinance are growing ;

(*b*) Regulate or prohibit the kindling of fires and prescribe the precautions to be taken to prevent the spreading of fires ;

(*c*) Regulate or prohibit the cutting, sawing, conversion and removal of trees and timber and the collection and removal of forest-produce ;

(*d*) Regulate or prohibit the building of houses or huts, the quarrying of stone or coral, or the digging for plumbago or gems, or the burning of lime or charcoal ;

(*e*) Regulate or prohibit the cutting of grass and the pasturing of cattle, and regulate the payments (if any) to be made for such cutting or pasturing ;

(*f*) Regulate or prohibit hunting, shooting, fishing, poisoning water, and setting traps or snares or guns ; or the use of explosives ;

(*g*) Regulate the sale or free grant of timber or other forest produce ; and

(*h*) Prescribe, or authorize any forest officer to prescribe, subject to the sanction of the Governor, the fees, royalties, or other payments of such timber or other forest-produce, and the manner in which such fees, royalties or other payments shall be levied, whether in transit, or partly in transit or otherwise.

The Ordinance enacts that nothing in this section should affect any existing rights of any person in or over pasturage. A breach of any of the provisions of or regulations or rules made under this Chapter is punishable with a fine of R100 or 6 months' imprisonment. But nothing is an infringement of any rule if done with the permission in writing of G.A. or A.G.A.

It has been held that rules made under section 40 of the Ordinance by the G.A. should be proved in a prosecution for a breach of rules (P.C., Awisawella, 7580, 9 S.C.C.-60.) Per Burnside C.J. :—" The rules which the G.A. " may make under section 40 of Chapter IV. " in question do not require the approval of " the Governor with the advice of the Executive " Council in the same way as rules made under " section 41 do, and not being made or approved " by the Governor with the advice of the " Executive Council, they do not have the force " of law by being published in the *Government* " *Gazette* as mentioned in Sec. 81."

Therefore, following the above decision, in a prosecution for breach of any of the rules made under section 41, the rules themselves need not be proved, inasmuch as such rules require the approval of the Governor in Executive Council, and after publication in the *Government Gazette* have the force of law.

COLLECTION OF DRIFT, STRANDED AND OTHER TIMBER.

Chapter VI. of the Ordinance No. 10 of 1885 as amended by 16 of 1892 deals with the above kinds of timber, and declares that all unclaimed timber found adrift, beached, stranded or sunk ; all timber bearing marks which have not been registered under regulations made under section 44 ; all timber which has been supermarked, or on which the marks have been obliterated, altered or defaced by fire or otherwise, and in such areas as the Governor directs, all unmarked or unstamped timber shall be deemed to be the property of the Crown, unless and until any person establishes his right thereto.

Public notice of the collection of timber must be given by a forest officer, and such notice must contain a description of the timber, and any person claiming the same, must within one month from the date of the notice present to the forest officer a written statement of such claim. The forest officer is empowered, after making such inquiry as he thinks fit, either to reject the claim or deliver the timber to the claimant. If there be more claimants than one, the forest officer either delivers the timber to the person whom he deems entitled thereto, or may refer the claimants to a Civil Court and retain the timber pending the receipt of an order from such court for its disposal. Any person whose claim has been rejected may within one month from the date of such rejection institute a suit to recover possession of the timber claimed by him. Compensation against the Crown or the Forest Officer on account of any rejection or detention or removal of any timber, or delivery thereof to any person, cannot be claimed. If no statement is presented as above set forth, or if the statement has been presented and the claim has been rejected and the claimant omits to bring an action within one month to recover possession of such timber, the ownership of such timber vests in the Crown free from all incumbrances ; or, when such timber has been delivered to another person, in such other person free from all incumbrances not created by him.

Before the claimant can recover possession of any timber collected or delivered, he must pay to the forest officer or other person entitled to receive it, such sum as may be due for collecting, moving, storing and disposing of the same.

## PECULIARITIES OF COCONUT CULTIVATION IN INDIA.

### III.—MYSORE (*contd.*)

Every year the garden is cultivated with ragi (S. Kurakkan) and other field crops the soil is fitted for, and is well manured with cattle dung. At the same time four loads of red mud are laid on the garden for every tree that it contains, while a little fresh earth is gathered up towards the roots of the palms. The crop of grain is but poor, and injures the palms; it is, always taken, however, as in order to keep down the weeds, the ground must at any rate be ploughed, the manure must be given, and no rent is paid for the grain.

On this kind of ground the coconut palm begins to bear in 12 or 13 years, and continues in perfection about 60 years. It dies altogether after bearing for about 100 years. They are always allowed to die, and when they begin to decay a young one is planted near the old one to supply its place.

In Mysore toddy is never extracted from the palm, for that operation destroys the fruit. Some of the young nuts are plucked in the hot season for the refreshing water which they contain, and to make coir-rope, but this is considered to injure the crop. The coir made from ripe nuts is considered to be very bad, and the husks are generally burnt for fuel.

The crop begins in the second month after the summer solstice and goes on for 4 months. A bunch is known to be ripe when a nut falls down, and it is then cut. Each palm produces from 3 to 6 bunches which ripen successively. A middling palm produces from 60 to 70 nuts. As the nuts are gathered they are collected in small huts raised from the ground on posts. When any one purchases them they are husked at the expense of the purchaser. The man who husks the nuts also breaks the shell by giving each a single blow with a crooked knife, leaving the kernel intact. The kernel in this form is called *koppari*, and is now ready for the market. A man can daily clean 1,300 nuts. From 20 to 30 per cent of them are found to be rotten.

### IV.—NICOBAR ISLANDS.

On these Islands the palm is very abundant, although it exists only under recent cultivation on the Andaman Islands, but re-appears still further north on the Cocos Islands. Sir W. W. Hunter gives an interesting account of the Nicobar trade in coconuts, which may here be quoted: "At present the principal products of these Islands is the coconut palm, and its ripe nuts form the chief exports. The Northern Islands are said to yield annually ten million coconuts, of which about half are exported. The estimated number exported in 1881-82 was 4,750,000. As this important product is six times cheaper here than in the coast of Bengal, or in the Straits of Malacca, the number of English and Malay vessels that come to the Nicobars is every year increasing. The trade in coconuts is carried on chiefly by native craft from Burma, the Straits Settlements, Ceylon, &c. Forty vessels of an aggregate tonnage of 6,270 tons visited the Islands for coconuts in 1881-82." The Administration Reports for 1885-86 gives the exports as 4,510,000 nuts, and 5,730 bags of copra. In that year 49 vessels with an aggregate tonnage of 8,218 tons, obtained permission to trade with the Nicobars for coconuts, &c. The same report states that there are now 112,000 coconut palms under cultivation at Port Blair.

### V.—BURMA.

Of Burma it is reported that the coconut is "largely cultivated and might be much more so in many places along the Arakan Coast as it is in Ceylon, and as doubtless it would be but for the sparseness of the population, the difficulties of approaching the coast except at a few spots, and the absence of the means of land communication between the ports and the sites fitted for the production of the trees."

In the Bassein district of Pegu it has been stated that there are 10,000 acres under coconuts.

### VI.—BENGAL.

In Bengal, while the palm is plentiful along the lower Gangetic basin, it exists only in garden cultivation, and the produce is not much in excess of the total demand. There are no large plantations such as have been described in Madras, Mysore and Bombay, because in Bengal the date palm is used as the source of toddy. It is, however, fairly abundant in Noakkally, Backerganj, Jessore and the 24-Parganas.

Further North (in Upper India) the coconut is not cultivated at all.

## CATTLE.

We read in the *Agricultural Journal* of the Cape that hyposulphite of soda is the best agent for getting sulphur into cattle. It has no bad taste or smell, and it can be conveniently used for saturating the system of an animal and rendering it obnoxious to ticks. For external treatment the common lime and sulphur dip made by boiling will be the best against ticks and the damage caused by their bite. But for internal use the hyposulphite of soda which is a form in which this soluble sulphur can always be had at a low price, will recommend itself to stockowners. It can be given as a drench—three ounces to the quart of water; or it can be dissolved in the water which cattle drink when it will be inimical to all parasitic worms as well. Considering how great a trouble ticks are to cattle-breeders in Ceylon, the remedy recommended above is well worth a trial, being cheap and easily administered.

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An American correspondent to the *Pastoralists' Review* referring to the tick pest says that internal treatment with sulphur is the only sure cure. "Dipping," he says, "may kill all the pests on a cow, but how about those which are waiting their turn. You will have

to dip her for every fresh lot of ticks, and it will become a case of 'and last of all the cow died also,' and she will have cost you more than her hide and your trouble are worth twice over."

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The largest official record of a Holstein cow was that given by "De Kol 2nd." This cow produced in one week 536¾ lbs. of milk, which made by the Badcock test 26¼ lbs. of butter, containing 80 per cent. fat. The largest yield in one day was 83¼ lbs. of milk, producing 4¼ lbs. of butter.

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Another common trouble with us is what is commonly spoken of as "worm complaint" in calves, generally causing a diarrhœa which weakens the young animals to such an extent that nothing will help to bring back their strength. Veterinary Surgeon Crawhurst, a Government Veterinary Surgeon of the Cape, recommends the following treatment:—Give half a drachm of sulphate of iron twice or three times a day with food, and after continuing this treatment for 3 days, give one dessert spoonful of turpentine in 4 oz. of castor or raw linseed oil.

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Professor Koch, the well-known German Scientist, is making a study of rinderpest in connection with the outbreak of the plague in South Africa. We also learn from a communication in *Nature* that the Royal Society is likely to take up the question of the cattle plague.

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The following extract from the *Mark Lane Express* of Nov. 9th while giving some statistics with reference to animal diseases in England, also shows us how they stamp out or prevent the spread of these disease there:—

The weekly report in the *Mark Lane Express* of November 9th states:—"That the number of cases of rabies during the 44 past weeks of the year were, in dogs, 406, and in other animals 226, swine fever 4,689 outbreaks and 70,391 infected slaughtered. There have been during the year 2 cases of imported cattle suffering from lung-sickness, which disease was promptly stamped out by the slaughter of the diseased cattle and 183 more which had been exposed to infection."

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In a paper read by the Russian Minister of State Domains before the French National Agricultural Society of France in October last, we find it stated that the Prince of Oldenburg who devoted a large sum of money to the founding of the St. Petersburg Bacteriological Institute had "brought forward a new discovery—that of the bacillus of cattle plague, which up to the present had evaded discovery." It will be remembered that early last year the same discovery was announced by Dr. Simpson, the Health Officer of Calcutta, and the fact recorded in our pages. It still, however, remains to be seen which of the discoverers of the bacillus will be the first to prepare a preventive vaccine for the disease.

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Professor Henry of the Wisconsin Experimental Station writes as follows in recommendation of pumpkins for milch cattle:—

"The pumpkin is a splendid feed for dairy cows in the fall, and our dairy farmers cannot use them too liberally The dairy cow likes variety, and pumpkins can be grown so easily, and yield so well when planted by themselves, that a prudent dairyman will not forget this useful adjunct to his usually rather short list of feeding stuffs. The pumpkin containing much nourishment and being very palatable, tends to produce a large flow of milk. The seeds of the pumpkin are said to increase the action of the kidneys, and I think the statement entirely reasonable. It is well therefore, in feeding pumpkins in quantity, to rid them first of seeds, which can be done easily and rapidly."

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A writer to the *American Breeder* writes in high praise of rape as a fodder for stock:—"I think rape a grand crop for sheep and profitable for cattle, either as pasture or soiling." As containing a larger percentage of sulphur the most fodder crops, rape is highly recommended, together with other cruciferous crops, as a healthy diet for stock.

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## NITRAGIN OR THE USE OF PURE CULTIVATION BACTERIA FOR LEGUMINOUS CROPS.

While every one interested in Agriculture, and in Agricultural Science in particular, must feel that a great advance has been made in our knowledge of the hitherto unexplained and peculiar action of leguminous field crops, and must conclude that the matter is one that ought to be put to a trial, yet the need must be very apparent of thorough experimentation before one can absolutely come to a decision as to the practical value of the discovery.

It behoves every agriculturist, therefore, to put the discovery to the test, and should it prove successful to avail himself of its advantages.

In England some experiments have been begun at the Woburn Experimental Farm with "Nitragin" brought over by Dr. Voelcker on a variety of crops. Some members of the Council of the Royal Agricultural Society have also commenced a trial upon one or other field crop.

If the atmosphere can be brought under contribution not only to supply the means for leguminous crops to grow luxuriantly, but also to supply the fertilizing ingredients required either to the succeeding annual crop or to a contemporaneous perennial crop, then it must be far better to grow a leguminous nitrogen-collecting than a non-leguminous non-nitrogen collecting one.

Nor can this be a matter of indifference, for it must be admitted that farmyard manure is expensive to produce and conserve in the most approved way, that it is difficult and often expensive to procure in good condition, and that, owing to its bulk, it is costly to transport, so that it is quite worthy of consideration whether it might not be, in some cases, at least, economically replaced by the growing of leguminous green crops either for feeding-off or ploughing-in.

The following are among the advantages claimed for nitragin when used as directed :—

1. That every single seed is surrounded with a covering of bacteria, which, after germination, penetrate into the root hairs and begin their activity in collecting nitrogen, so that without nitrogenous manuring and even in soils poor in nitrogen a good yield is assured.

2. That through the activity of the bacteria the soil becomes richer in assimilable nitrogen which goes to benefit the succeeding crop also.

3. That the disadvantages of the method hitherto adopted of necessity, of inoculating with earth obtained from a field are avoided.

4. That a manuring with nitrogen in the form of nitrates, ammonia salts, &c., is rendered superfluous.

The experiments of Dr. Nobbe and others certainly offer strong evidence in favour of these conclusions. The practical question, however, that it seems to us we have to take into account is whether, as a matter of agricultural experience, we do find soils under ordinary cultivation in which there is a deficiency of the organisms which are required for the proper development of ordinary leguminous crops, and which enable them to assimilate the nitrogen of the atmosphere; and whether in consequence of such deficiency in quantity, or absence of those kinds most favourable to the development of the particular crop, we should obtain a better yield of the leguminous crop, and at the same time lay up a larger store of nitrogenous food for the succeeding or contemporaneous one, if we were to inoculate the seed or the land in the way proposed. These are questions which can only be answered by practical trial.

Certain, however, it is that difficulty is not infrequently experienced in the raising of a healthy growth of leguminous crops, particularly in succession on the same land, and sometimes in different parts of a tolerably limited area.

The main point appears to be whether it may not be wise to ensure, by means of such inoculation, that the organisms peculiar to each leguminous crop are present in sufficiency, so that the crop may grow luxuriantly while the soil is enriched in nitrogen for another crop, and both rendered independent of any special nitrogenous manuring.

Altogether a vast field of enquiry has been opened up, and though first experiments must be necessarily tentative in character, a year or two should give us the results of extended trials on a commercial scale and on different classes of land.

(*The End.*)

## PREVENTATIVE MEASURES FOR RINDERPEST.

The following are extracts from a Government Notification published in the *Natal Farmer's Magazine*, being taken from a Minute by the Principal Veterinary Surgeon to the Commissioner of Agriculture in that Colony :—

If an animal is found shivering with a staring or hide-bound coat and moist eyes, he should without delay be isolated and kept under observation, and if a second case manifests itself the fact should be at once reported to the nearest authorities, and a caution given to neighbours that suspicion exists. On no account should the rest of the herd be removed to another place, as if the disease unfortunately should prove to be rinderpest, the infection of the entire herd, though apparently in perfect health, is a matter of almost absolute certainty. Such removal cannot be carried out without either danger to others or of the infection of fresh ground, which may be of great value subsequently as a pasturage above suspicion on which healthy stock may be kept. In any case I would emphasize the futility of changing one's ground. If a change is made it should be a concentration of all animals not visibly ailing, which have been in contact, towards the centre of the farm, as far distant from one's neighbours as possible. This cannot but be the duty of every right-minded man who has at heart the welfare of his neighbour and the direct interest of his country. The present feeling of panic now so prevalent is much to be deprecated. A timorous apprehension cannot be the best front to show to danger of any sort, and anyone caring to investigate the preparations made for the reception of the disease must exonerate these concerned in the defence of the colony from the opposite and equally fatal mistake of underrating the danger. It is in my opinion highly improbable that the disease is going to decimate or even grievously injure the colony. We may not be so fortunate as to exclude it absolutely, but I am convinced that a determined and level-headed resistance to its progress foot by foot will first check and then exterminate the disease. Failure can only come through panic and half-hearted measures. The prevalent conception that the disease possesses some supernatural power of spontaneously generating itself or making a long jump of a hundred miles without being carried is most erroneous and contrary to the dictates of reason and science. It should be strongly impressed upon the memory that the disease goes *only where it is taken*, and that it is a deficiency of evidence only which prevents our tracing the cause of each fresh outbreak as it occurs. Strict cleanliness of person should be observed on the part of those in contact with the disease, more particularly if they contemplate leaving the infected district. Boots should be changed, or if this is impossible, they should be thoroughly scraped upon the sole and scrubbed with a ten per cent. solution of Quibell's or Jeyes' fluid, or some similar compound duly authorised. The hands should receive the same treatment as far as the scrubbing with an antiseptic solution is concerned ; the nails should be kept short and thoroughly clean by brushing, after handling a sick or suspected beast. Tools used for the burial of carcases are infected, and cannot be brought back to the homestead without risk until disinfection has taken place. Natives employed in the herding or burial of affected animals—(treatment of any sort is playing with fire and is worse than useless)—should be considered highly suspicious as transmitters of the disease, and their thorough disinfection is a duty of every employer personally. Where possible, carcases should be burnt. This process is tedious, but absolutely safe when carried out.

## MILK AND MILK PRODUCTS.

BY MR. JAMES MOLLISON,
*Superintendent of Farms, Bombay.*

Cream, after it has been separated from the milk, is ripened in an earthenware jar, covered with muslin and not with an air-tight lid. During ripening the cream should be frequently stirred at least once every two hours. The time required to ripen cream depends upon the temperature. Cream will be sufficiently ripe in 12 hours if the temperature of the dairy is from 65° to 75° F., in less time if the temperature is higher. A greater period must elapse if the temperature is lower. During the early monsoon rains cream will ripen more quickly than in the hot weather. Cream is ripened with the object of making it yield a greater proportion of butter of fine flavour than that obtained from fresh cream. The flavour is believed to be developed by the growth of a microbe in the cream. The fermentation which proceeds during the ripening process causes the cream to thicken. Cream is not pure butter fat, for milk in variable proportion is always present, and this milk sours as the cream ripens and the lactic acid precipitates the casein. The curd thus formed may during churning become incorporated more or less with the butter. Butter thus made will not keep long. If the sourness of ripe cream is excessive the curd forms in lumps; if the ripe cream is only slightly acid the precipitated casein breaks up into particles of minute size during churning, and these particles always form a constituent portion of the butter which ordinarily by thorough washing can be separated from the butter. The butter which will keep longest is made from fresh cream, while the butter with the finest flavour is made from ripened cream. The combination of keeping quality and flavour is a point of value. It has been authoritatively stated that this has been accomplished now by inoculating fresh cream with a pure culture of the cream-ripening microbe. Cream should only half fill the churn, so that agitation may be due to the cream falling upon itself at each revolution of the churn; if it completely filled the churn there would be no agitation at all. If the cream is so thick that it sticks to the churn, pure cold water should be added. The lid of the churn is now fixed down and the churn turned at the rate already indicated. The cream will froth up and swell after the first few revolutions. The air which was incorporated with it is driven out, and because it is impure air and in consequence may taint the butter, it ought to escape through a valve placed on the lid of the churn for that purpose. A small pane of glass is inserted in the lid of the churn. By careful observation the dairy-man can see from time to time what is going on inside, and can determine when the butter begins to form. So soon as this takes place cold water (about 1/10th of the cream quantity) should be added. The object is to lower the temperature when the butter is forming in order to get it firm, also to dilute the butter-milk so that it may the easier be separated from the butter granules. The necessity of lowering the temperature arises because the agitation which the process of churning requires has raised considerably the initial temperature. The churning is again continued until specks of butter on the glass are easily discernible and are seen distinctly separate from the butter milk. Experience and judgment are necessary to decide the right moment when to stop churning. If stopped too soon butter is lost in the butter-milk because the granules are so small that they pass with the butter-milk through the meshes of the finest strainer. If carried on too long the butter granules aggregate and the butter becomes greasy; moreover it is difficult to separate the butter-milk completely by subsequent washing and working without spoiling the grain or texture of the butter. When churning is sufficiently advanced the butter-milk is drawn off through the tap hole at the bottom of the churn, and is strained through a sieve; and any butter caught is returned to the churn. The churn is half filled with pure cold water and given a few more revolutions and then kept at rest for a short period. If curd is present in quantity, it will settle to the bottom of the churn whilst the butter floats on the water. As the water is drawn off the curd may also be removed. If curd is present the butter caught on the sieve should not be returned to the churn, because it necessarily must be mixed with pieces of curd. If there is any considerable quantity it can be made into *ghi.* The churn is again half filled with water and given a few more revolutions. This water is likewise strained through a sieve as it is drawn off, and if there is no curd present, the contents of the sieve are again returned to the churn. The butter is now comparatively free of butter-milk, but in order that it may be washed, as far as possible, whilst still in a granular condition, brine is now added, the solution consisting of ¼th lb. salt to a gallon of water. The churn is again half filled and slowly revolved a few (say 3 or 4) times. The brine is drawn off and strained as before through a sieve.

(*To be continued.*)

## THE ROOTS OF PLANTS.

A late report of the Kansas Agricultural Department distinguishes two classes of roots in plants, explaining the text by means of an illustration which we regret we are unable to reproduce The two kinds of roots are (1) the feeding roots which grow along in the true or cultivated soil where the plant food is abundant, and (2) roots which go down deep into the soil in search of water.

"We say search of water as though it were a matter of instinct, but the influence which encourages these roots to take a downward direction is the flow of moisture constantly coming up by capillary attraction from below to the surface.

"The young roots are attracted by the moisture, and grow and go down deeper and deeper. There is a case recorded of a willow which grew to be a large tree in apparently a dry soil, but it was found that there was a small leak in an underground tank, several feet away and deeply below the soil, guided by the moisture which came up through the soil, the roots found it out and formed a large mass of fibrous roots in the tank itself.

"The depth to which some of these moisture-seeking roots will go down is remarkable. One day on Earl Ducie's example farm at Whitefield

a party of young men thought they would ascertain how deep wheat roots went down into the subsoil, and one of them held the root in his hand to shield it while the others dug out the earth and gravel to enable them to follow its course. They dug out tons of stuff, which carried their digging down eight feet four inches, and, as they believed, the root was then broken off. Roots of onions have been found nine feet down or more, and could be distinguished by their taste. Where deep cuttings were made across a field of sainfoin for a waterworks culvert, the roots of the plant were found twenty feet from the surface, and lucerne roots have been found even deeper; in fact, it is believed they go down to the bed-rock even.

"The habit of grasses, whether deep-rooting, or growing with shallow roots, determines their suitability for this country.

"Now, it is easy to see that a field with a hard and almost impenetrable subsoil, or pan, created by constant shallow ploughing, will not allow of this deep-rooting, and therefore in absence of rain for even a short time, the crops must suffer, while on other lands which have been subsoiled and the impediment of a pan broken up, the crop may hold out and come to maturity. Besides the advantage of the deep-rooting, the feeding-roots of the plant will find food in the broken-up subsoil when they can be distributed amongst it."

## ALLEGED CURES FOR CATTLE PLAGUE.

The following correspondence on the above subject, which has been transmitted by His Excellency the Governor and High Commissioner of the Cape, is herewith published for the information of our readers:—

Wellington Club, Grosvenor Place, S. W.,
April 15th, 1896.

To the Right Honourable JOSEPH CHAMBERLAIN, M.P., Downing-street, S. W.

*Rinderpest in South Africa.*

SIR,—I have been interested in tropical agriculture for the last 30 years in British East India, and the rinderpest used to give us much trouble and cause much loss. An animal once attacked never recovered. Of late years we adopted a novel and most efficacious treatment, and we now no longer dread the disease.

The treatment consists simply of boiling down the first victims and feeding those attacked with the broth, giving each animal a half to one pint three times a day. I cannot, of course, say if the same success would follow a similar treatment in South Africa, but it is, I am persuaded, worth a fair and careful trial. Personally I believe anthrax, if not pleuropneumonia, could be successfully treated by similar means, but of these both I cannot speak from experience. The broth should be given for two days or so after the animal begins to eat.—Your obedient servant,

(Sd.) C. TOTTENHAM.

Downing Street, 21st April, 1896.

SIR,—I am directed by Mr. Secretary Chamberlain to request you to lay before Secretary Lord G. Hamilton the enclosed copy of a letter respecting a method of treating rinderpest, which the writer states was successful in British East India, and I am to state that Mr. Chamberlain would be glad to be supplied with any information that may be in the possession of your Department as to the efficacy of the treatment described.—I am, &c.,

(Sd.) EDWARD FAIRFIELD.

The Under Secretary of State, India Office.

India Office, Whitehall, London, S.W.,
14th May, 1896.

SIR,—I am directed by the Secretary of State for India in Council to acknowledge the receipt of your letter, with enclosure, of the 21st April, and in reply to state, for the information of Mr. Secretary Chamberlain, that this office is not in possession of any information with reference to the treatment of rinderpest in India in the manner described by Mr. C. Tottenham. Lord George Hamilton has caused inquiry to be made on the subject, but no confirmation has been obtained of the statement submitted to the Colonial Office by Mr. Tottenham.—I am, &c.,

(Sd.) A. GODLEY.

The Under Secretary of State, Colonial Office, S. W.

The following is taken from the *Agricultural Gazette* of the Cape:—

With much regret I saw in the last number of *Ons Land,* that the dreadful Rinderpest has already appeared on this side of the Orange River, and that up to the present no remedy has been discovered to prevent this enemy among our cattle.

In the hour of need man grasps at a straw to save himself. In 1892, when so many horses and asses died in our district from horse-sickness, I tried a remedy for my horses and asses as a preventive against the disease. I took ten parts of salt and one pint of Cooper's Dip, ground the salt fine and mixed the Cooper's Dip with it. I gave each horse and ass a tablespoonful of this dry.

My animals grazed in a large veld amongst a good many other horses and asses which all contracted the disease and died, while all of mine remained healthy, although they as well as the other animals were exposed to cold and damp. I have used the same remedy for my healthy sheep as a preventive for Geel Ziekte, and with good results.

Well, would it not be worth trying this remedy on the healthy animals where the Rinderpest begins to show itself? It can do no harm, and I think inasmuch as a beast is stronger than a horse, men may safely give each beast a tablespoonful and a half of the abovenamed mixture. Who knows perhaps by the use of such an unfailing remedy thousands of cattle may be saved, and much heartrending and misery be prevented thereby. (Sd.) S. C. LOUW

Spes Bona, Ceres, Oct 3rd.

I have no remarks to make, except to say that Cooper's Dip has been found useful in horse-sicknes and geel-ziekte. And if given to cattle it might have a tendency to keep them in good health. I have no faith in it as a cure for Rinderpest, and I doubt whether it would act as a preventive. J. W. CROWHURST, F.R.C.V.S.

We give below an extract from the report of the Director of Land Records and Agriculture in the N.W. Provinces and Oude, India, is interesting as giving the experience with most of the various devices for the protection of trees in roadside arboriculture. The tree called "babul" in the report is the *Acacia arabica*, which is found chiefly in the drier parts of the Island, but which can be replaced by other thorny acacias that are more common than the species named. We have seen the troublesome "lantana" pressed into service and grown as a protection for coconut plants without any apparent injury to the latter:—

The district reports give evidence both of the difficulties connected with this most important part of the work and of attempts in several districts to provide a cheap and effective guard. In Mainpuri, tree guards of wood were tried; in Garhwál, stone fences; in Meerut and Basti, brickwork guards; and in Meerut, Muzaffarnagar, Dehra Dun and Jalaun wire guards have been constructed. In Dehra Dún, tree guards of barbed wire fixed to four rough wooden posts are used and are said to be effective; but, as stated last year, the use of barbed wire should not be encouraged on public roads. The guard costs R2 and lasts only four years, the time a single tree should ordinarily want protection, so that it is far too expensive for general adoption. I do not, therefore, consider this guard a success. The brick guards costing R2 each, introduced by the Collector of Meerut last year, are reported to have done very well, though to protect them from being knocked down by animals it has been found necessary to surround them with thorn fences. The bricks are available for erection at another place when the tree, round which they were erected, is established, and the brick guard is, therefore, cheaper than that of barbed wire above referred to. I doubt, however, whether their liability to collapse on a cart coming into contact with them and the expense of re erecting them does not make them also too expensive. Mr. Wyer has this year introduced another guard, costing R1-5-0 each, made of wire netting supported on an iron frame. He considers it preferable to the brick guards on account of its being cheaper, neater and equally efficacious. It gives better ventilation and is available for a second tree when it can be moved from its first position. Filled with thorns to prevent goats getting at the trees over the top, it appears to me as satisfactory a guard as could be devised. A somewhat similar guard has apparently been tried in Muzaffarnagar, but the information at my disposal is not sufficient to permit me to describe it. It is said to be a wire framework intended to protect and keep together a hedge of dried thorns. For districts with ample funds at command Mr. Wyer's guard might probably be adopted on a considerable scale. In the East, however, it is improbable that even R1-5-0 can be paid for each tree guard, and the cheaper methods of protection by ditches and mounds, by growing cactus plants, or by dry babul thorns, must be continued. The ditch and mound is, where the soil is stiff and the road wide, probably the least troublesome; but on the majority of roads it is impracticable, and the choice lies between babul thorns, which have often to be carried for miles, and the cactus. I have, during my late tour, seen very excellent results obtained by means of cactus fencing. It is troublesome to establish, but, once established, last till the tree protected is well-grown and affords material, when destroyed, for many other guards. It might be feared that injury would be done to the young tree by the air being shut out by the close-growing cactus, but the very flourishing young trees one sees when they are well-protected by cactus and properly tended sufficiently prove that this is not the case. When babul thorns have to be employed the advantage of having a temporary avenue of babuls, as suggested by the Government review on last year's report, is obvious.

## CATTLE DISEASE IN THE VILLAGES OF THE WANNI.

Rinderpest is enzootic in certain parts of Ceylon, especially in the interior adjoining thick jungles. During the past few months I have had much to do with this disease both in the Sinhalese and the Tamil Wanni. It seems to prevail in one village or other all the year round. Its virulence and the rapidity with which it spreads varies in different parts of the year. During the rainy season it is observed to be more virulent. When it is hot and dry the outbreak is of a more benign type. Heat is said to have the tendency of attenuating the virus.

The degree of malignancy is greater in certain animals than in others. For instance, the mortality among buffaloes is proportionately greater than among neat cattle. It will be interesting to have reliable statistics as to the percentage of deaths caused by rinderpest among these two species of cattle. Certain wild animals, such as the deer and the elk are attacked with, probably, a comparatively mild form of the disease; and they form a means of keeping up and spreading the disease although this fact is often overlooked.

*Prevention and Suppression.*—Animals that recover from one attack of rinderpest are proof to subsequent attacks at least for a period of six or seven years. The general belief is that one attack confers immunity through life. Even the most ignorant Ceylon goyiya and Indian ryot that owns cattle is aware of this. On account of this protective power, experiments were carried on by Veterinary Surgeons with a view to find out whether inoculation with the virus will answer as a preventive measure. The results were, however, unsatisfactory as inoculation tends to reproduce the disease in as malignant a form as that contracted in the natural way.

In Europe, when any outbreak of rinderpest is detected, it is at once stamped out by destroying the infected animals and burying or burning their carcases. But such a method of suppression is unsuitable to most parts of Ceylon for two reasons, viz., (1) It is antagonistic to the religious feelings of most of the people. (2) The disease is so common, so frequent and so scattered that a large number of animals will have to be killed.

In villages, however, where only a few solitary cases occur, this plan may be adopted if the

owners are willing. But the chief preventive method which we should have recourse to in Ceylon is the isolation of the sick animals and the segregation of the healthy, supplemented by thorough disinfection and the frequent burning of the excreta and litter of the sick ones. The proper disposal of the carcases of cattle and other animals that die of rinderpest is important. They should be either thoroughly cremated or buried at a depth of five feet.

A fact that is apt to be overlooked in connection with the preventive measures is that this disease is not only directly communicable from the sick to the healthy cattle, but also indirectly through the air and water as well as by men and animals that have been in contact with the infected cattle. For this reason cattle which are themselves proof to rinderpest, but have been in contact with or close proximity to the sick should not be herded with the uninfected ones; and the attendants that nurse the infected should likewise keep aloof from the latter.

The common watering places and pasture lands form a very fruitful source of mediate contagion. In most villages there is only one tank where all the cattle of the place flock to drink, and only one large green where they are herded to graze. Hence it often becomes impossible to check the progress of an outbreak unless suppressive measures are adopted at the very outset. One important step towards facilitating the suppression of the disease will be gained if the people can be induced to dig wells and water their cattle from them and to divide the common pasture into separate lots for their animals by means of fences.

The ignorance of the villagers as to the real nature of rinderpest is a great obstacle to its prevention. We should not relax in our attempts at disseminating correct ideas about it. Many cattle owners act as though they have not realized that it is a contagious disease. They sometimes go on counting the number of the dead and the dying as one after another animal falls a prey to the disease, without making any rational attempt to protect those that are still left. The explanation of this strange fact is that they believe the disease to be a visitation by their deities whose wrath, they think, will be only increased by any commonsense measures employed to arrest its progress. Actuated by this belief they sometimes make vows and offerings to pacify the deities. This, no doubt, is more easily done than the carrying out of proper preventive and suppressive measures, for such measures have to be most strictly enforced in order to satisfy the demands of veterinary science and to be thoroughly effectual.

E. T. H.

*(To be continued.)*

## GENERAL ITEMS.

The Reporter on Economic Products to the Government of India (Dr. Watt) suggests the use of a paint, made up as follows, against white-ants :—

1 part, resin of Gardenia gummifera.
2 parts, asafoetida.
2 parts, bazaar aloes.
2 parts, castor-oil cake.

Pound, mix and keep in water for about a fortnight, when it becomes a thick compound. Now add water to bring to the consistency of paint, and add the red colouring matter got from *Morinda tinctoria.* Thoroughly apply for about 2 ft. from the ground for white and red ants. The effect is said to last for 2 years or more.

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A trial of this paint was made at the instance of the Director of Agriculture in the N.-W. Provinces, by applying it to a number of mango and other trees badly attacked by white ants. The experiment proved that the paint is an effective preventive against the attack of white ants, if applied *directly* to the bark of attacked trees, so that all earthy ant deposits must first be removed from the trunks. The cost of treating per tree comes to nearly 25 cents, which is considered too expensive for extended use on large trees, but would not be prohibitive where it is found difficult to establish young trees or saplings along roadsides owing to white-ant attack.

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A shoe without nails has been invented which appears to be entirely satisfactory. It had been tried in the German army for a year with the best results, and a very favourable report upon it has been presented to our own army authorities by Lieutenant-Colonel Graham. The new shoe is being adopted by the Glasgow Corporation and the Great Northern Railway Company, and it is to be tried in the stud of Her Majesty the Queen. Instead of the nail a two-pronged clamp, with a couple of turned points at the single end, is placed along a slight groove on the outside shell of the hoof, following the line taken by the nail in the ordinary shoe. At the point where the nail usually emerges and is turned down, the points, or hooks, of the clamp are pressed into the hoof, and the two prongs pass downward beyond the edge of the hoof, into a slot in the shoe, similar to the present nail-hole. The foot is then lifted, and a small wedge driven into the slot from beneath, passing between the prongs and fixing them firmly into the shoe. It is found that the shoe, thus fixed, looks neat and workmanlike, cannot be shaken off by any amount of kicking and plunging, and can be taken off and replaced in a few minutes in the stable, so that changes necessary in frosty weather can be effected without trouble. A company is in course of formation to place the shoe on the English market, and specimens may be seen at the offices of the Minerva Horse-Shoe Syndicate, 11, Queen Victoria-street, E.C.

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The results obtained from tests which have been made at the Canadian Government Experimental Farm during the past eight years as to the action of fertilizers on crops show that the action of fresh manure is almost equally beneficial, ton per ton, to that of rotted manure in the growing of nearly all the staple crops. The question of the best and most economical methods of handling farmyard manure is, therefore, one of the greatest importance to farmers everywhere, since animal manure form one of their most valuable assets. As a result of many analyses, it is estimated that twenty tons of good farmyard manure contain about 190 lb. of nitrogen, 128 lb. of phosphoric acid, and 172 lb. of potash, which, if estimated by their cost as obtainable from the cheapest artificial sources, represents a sum of not less than £9.